—THE—

# Therapeutic Gazette.

Whole Series, Vol. XIV. | DETROIT, MICH., PHILADELPHIA, PA., | January 15, 1890. | Third Series, Vol. VI. No. 1.

CONTENTS.

**Original Communications.**

PAGE

New Therapeutic Agencies. By Prof. Dujardin-Beaumetz..... 1
Two or Three Strong Practical Therapeutic Points of Every-Day Application. By Henry M. Field, M.D..... 11
Historical, Critical, and Scientific Aspects of Brown-Séquard's Discovery—The So-called "Elixir." By G. Archie Stockwell, M.D., F.Z.S. (concluded)..... 14
Arsenite of Copper in Bowel Complaints. By L. Worsham, M.D..... 19
Report of Three Cases of Remarkably Slow Pulse. By D. W. Prentiss, M.D. (concluded).. ..... 20

**Leading Articles.**

The Action of Sulphonal as a Hypnotic 31
Lead-Poisoning..... 32
The Use of Bromide of Rubidium and Ammonium in Epilepsy..... 34
Hypnotism..... 34
An Important Work..... 34

**Reports on Therapeutic Progress.**

Treatment of Whooping-Cough by Eucalyptus..... 30
Cholectotomy..... 35
The Diagnosis of Pyosalpinx..... 36
The Treating of Pneumonia by the Ice-Bag..... 37
The Physiological Action of the Iodide of Potassium..... 39
Cocaine in Diabetes..... 40
The Physiological Action of Hydrocyanic Acid..... 42
Glycosuria..... 42
The Physiological Action of Thallin..... 45
The Comparative Value of Antipyrin, Antifebrin, and Phenacetin as Antipyretics..... 45
The Treatment of Hepatic Jaundice by Hypodermic Injections of Pilocarpine..... 46
Syzygium Jambolanum in Artificial Diabetes..... 46
The Amount of Fat in Condensed Milk 47
The Therapeutic Value of Senna-Pods 48
The Treatment of Endometritis..... 48
The Elimination by the Stomach of Morphine Injected Subcutaneously.... 49
The Cure of Hemorrhoids by Excision and Closure with the Buried Animal Suture..... 49
The Treatment of Syphilis by Quinine and Mercurial Injections..... 53
Arsenical Paralysis..... 53
Eucalyptus in Scarlet Fever..... 54
The Therapeutic Properties of Infusion of Yellow Raspberry..... 54

PAGE

**Reviews**..... 55

**Correspondence.**

Berlin Letter..... 58
Berlin Letter..... 60
London Letter..... 62
Paris Letter..... 64
Contagion of Scarlet Fever..... 65
Nitro-Glycerin as a Remedy for Shock.. 66
The Dose of Gelsemium Sempervirens.. 66
Sulphonal as a Hypnotic in Typhoid Fever..... 67
Remarkable Tolerance for Morphine..... 67

**Notes and Queries.**

The New Hypnotics—Sulphonal, Amylene Hydrate, Hydrobromide of Hyoscine, Hypnone, Paraldehyde, and Urethan..... 68
The Treatment of Chronic Metritis by Chloride of Zinc Pencils..... 71
A New Diagnostic Sign of Abscess of the Antrum..... 71
Solanum Carolinense in Epilepsy..... 71
A Method of Administering Chloral Hydrate in Eclampsia..... 71
The Non-Tubercular and Non-Cardiac Hæmoptyses of Elderly Persons..... 72
The Action of Salicylate of Sodium upon the Uterus..... 72
Bromoform in Whooping-Cough..... 72

## Original Communications.

### *NEW THERAPEUTIC AGENCIES.**

LECTURE III.—ON GASTRIC NEURASTHENIA AND ITS TREATMENT.†

BY PROFESSOR DUJARDIN-BEAUMETZ, PARIS, FRANCE.

GENTLEMEN:—A female patient has just been to our clinic to obtain help for a nervous malady from which she is suffering. It is an affection characterized by a train of odd symptoms, among which are to be noted: a sense of general enfeeblement; coldness of the extremities; a change of disposition resulting in hypochondriasis and gloom; wakefulness, manifesting itself generally at the same hour, about midnight; and a general emaciation, the first cause of which has escaped the knowledge of the physicians who have already attended her.

Notwithstanding the strangeness and manifoldness of the nervous symptoms of which this patient complains, you will not find in her the clear marks, the stigmata, of hysteria. She has not the *embonpoint* nor the outward appearance of this disease,—she is, on the contrary, thin and spare, without any hysterical crises properly so called; there is

* A second series of "New Medications," published in 1887.

† From advance sheets, revised by the author (translated by E. P. Hurd, M.D.). Lectures delivered in Cochin Hospital, Paris, France.

no hysterogenous zone, no anæsthesia of the pharynx. There is nothing on the part of the uterus to account for her sufferings, and at the same time she complains of great abdominal discomfort, and for years she has received treatment from a specialist who has made repeated cauterizations of the os and cervix without benefit.

But there exist evident disorders in the functions of the digestive tube; digestion is habitually long and laborious; the patient complains of gases distending the stomach and stopping digestion; has alternately diarrhœa and constipation, but is oftener constipated. The fæces have an excessively fetid odor; there is at times a mucous enteritis. The appetite is capricious, and the patient carefully avoids many articles of diet which she has found to give her pain and discomfort. All these symptoms go back to a distant date; she has, in fact, long been a dyspeptic and a nervous invalid.

If now, after having ascertained these data, you examine the abdomen more attentively, you note both by percussion and by succussion and by the *bruit de clapotement* (a peculiar swashing sound), which the latter determines, that the stomach is greatly distended; the greater curvature descends considerably below the umbilicus; in certain cases, as you know, it even reaches the pubes, so that the stomach seems to occupy the entire abdominal cavity.

If you make the patient take a long breath while grasping in your hand the left flank just below the border of the false ribs, you will feel a hard, smooth organ between your fingers which can be easily seized; this is the kidney. Percussion of the liver enables you to perceive some enlargement, and the attentive scrutiny of the hands, which are cold and damp, will reveal an exaggerated prominence of certain articulations of the phalanges, and in particular of that of the medius.

You will now be able to make your diagnosis, and affirm that this woman belongs to that class of patients who have dilated stomachs, a class which is very numerous at the present day, and comprises, in the expressive phraseology of Trastour, the *déséquilibrés du ventre* (those whose stomachs are not equilibrated); they constitute the rank and file of the neurasthenic.* It is to the treatment of this gastric neurasthenia that I now desire to call your attention.

* Trastour, "Les Déséquilibrés du Ventre," etc., Paris, 1889.

Under the names of nervousness, neuropathy, hystericism, neurasthenia, medical writers have endeavored to designate an aggregate of symptoms which seems to be differentiated from both true hypochondriasis and from hysteria, and they have created a series of divisions in these neurasthenic states corresponding to the different forms which they had before them. Thus Beard, who invented the word *neurasthenia*, described a neurasthenia by cerebral, spinal, sexual, and even gastric exhaustion.

Writers have also tried to discover the first cause of these nervous perturbations, of this exhaustion of the nervous system, and some have placed this cause in fatigue of the cerebral or spinal functions, in disorders of the great sympathetic, in uterine troubles, in alterations of the blood; but one of the organs often incriminated has been the stomach, and to-day the labors of Bouchard and those of the school of Lyons have given to this neurasthenia a form more precise and more concrete, and have enabled us to constitute a pathological aggregate having for its basis dilatation of the stomach.

The very intimate relations which exist between the functions of the cord and brain have engaged the attention of physicians from remote antiquity, and we have evidence of this in the name *hypochondriasis*, which, since Galen's time, has been applied to a great number of nervous disorders. It is certain that, long after Galen, medical writers were in the habit of classing under this name of *hypochondriasis* (*i.e.*, a disease having its origin in the hypochondriac regions) almost all strange, morbid, nervous manifestations. Coming down nearer to the present time, to Sydenham's epoch, we find this writer distinguishing hypochondriasis from another nervous state which he compares to a Proteus, taking an infinite variety of forms; to a chamelion, whose colors are so various; and this malady he called hysteria. Lastly, Whigtt described a third form of nervous functional disorder which was neither hypochondriasis nor hysteria, and which had chiefly for its origin stomach troubles.

To explain these disorders dependent on bad functionment of the nervous system three theories or hypotheses have been broached,—a theory purely nervous, a mechanical theory, and a humoral theory. Let us examine rapidly these three theories.

The nervous theory is the oldest. It is this which Beard has ably defended in speaking of nervous exhaustion of dyspeptic

origin.* Leven has latterly taken up anew this theory, and has assigned to the modifications of the nerve-cells of the solar plexus a preponderant *rôle*. He believes that irritations of these cells determine disorders in the gastric mucosa and in the neighboring organs.†

I protest that this explanation explains nothing. To say that irritation of the solar plexus entails disorders of the gastric mucous membrane, is to make a statement which would demand an anatomical demonstration more precise than that which has been furnished by Leven. One might well ask, moreover, What is the cause of these irritations of the solar plexus? I pass now to the second theory, which is somewhat more plausible, and which has been advanced by Glenard.‡

According to this writer, all sorts of functional nervous troubles, such as are included under the head of neurasthenia, depend on a modification effected in the reciprocal relations of the different portions of the intestine. These modifications or displacements, to which he gives the name of *ptoses*, may pertain to all the organs contained in the abdomen.

But what dominates in this splanchnoptosis (to speak the language of the school of Lyons) is the prolapsus of the right flexure of the colon and the first part of the transverse colon. Here is the fundamental organic lesion, the constant and irremediable lesion of enteroptosis, and it is this enteroptosis which is the origin of all the phenomena observed in patients whose gastric functions are not equilibrated.

It was in the year 1885 that Glenard began to make known this theory of enteroptosis, and we see it defended in Paris by Féréol,§ at Nantes by Trastour, in Italy by Sanctis;‖ moreover, Cuilleret¶ has published in the *Gazette des Hôpitaux* a very interesting article on this affection. Lastly, since then, Glenard has communicated upon this subject a great number of observations which give support to these views.

The mobility of the kidneys, so frequent in these patients with dilated stomachs, is, according to this theory, but a mechanical consequence of the prolapsus of the right flexure of the colon, and the nephroptosis thus results from the enteroptosis. To the purely mechanical theory of Glenard, we may oppose the humoral theory of Bouchard, contrasting, if we may so speak, Bouchard's disease with Glenard's disease.

It was in 1884 that Bouchard made known to the Medical Society of the Hospitals the important pathogenic *rôle* which may be assigned to dilatation of the stomach, and it must be acknowledged that the discoveries of Armand Gautier concerning the ptomaïnes and leucomaïnes seem to confirm in great part the views of Bouchard.** In his able work on the auto-intoxications, Professor Bouchard takes up the subject of dilatation of the stomach, and considers it as a type of chronic auto-intoxications of intestinal origin.

The functions of the stomach are arrested or hindered by the prolonged sojourn of aliments in that cavity, and processes of fermentation take place which lead to the production of ptomaïnes. These ptomaïnes, carried along the digestive tube, are taken up by the absorbents, and their presence in the economy gives rise to a series of symptoms of self-poisoning, the latter being the determining cause of the varied morbid phenomena presented by the subjects of gastrectasis.

In this pathogeny the *rôle* of the liver is considerable. You know the important office assigned to the liver as a destroyer of alkaloids. One of Bouchard's pupils, G. H. Roger, repeating the experiments of Heger, of Schiff, and of Victor Jacques, has given us a clear exposition of this protective *rôle* exercised by the liver. When the dilatation of the stomach causes too great a production of ptomaïnes, there results a secondary congestion of the liver, which augments in volume and depresses the right kidney, and if these congestions repeat themselves often, it is easy to see that this transient depression

* G. M. Beard, "A Treatise on Nervous Exhaustion," etc. New York: Wm. Wood & Co., 1880.

† Leven, "Estomac et Cerveau," Paris, 1884, and "La Névrose," Paris, 1887.

‡ Glenard, "Application de la Méthode naturelle à l'analyse de la Dyspepsie nerveuse;" "Détermination d'une Espèce"—"De l'Entéroptose" (*Lyon Médical*, mars, 1885); "Entéroptose et Neurasthénie" (Société Médicale des Hôpitaux de Paris, 15 mai, 1886, et *Semaine Médicale*, 19 mai, 1886); "A propos d'un Cas de Neurasthénie gastrique" (entéroptose traumatique); "Diagnostic de l'Entéroptose," "Conférence Clinique de l'Hôtel-Dieu de Lyon" (*Province Médicale*, 7 avril, 1887); "Exposé Sommaire du Traitement de l'Entéroptose" (*Lyon Médical*, juin et juillet, 1887).

§ Féréol, "De l'Entéroptose" (*Bulletin de la Société Médicale des Hôpitaux*, 5 janvier, 1887).

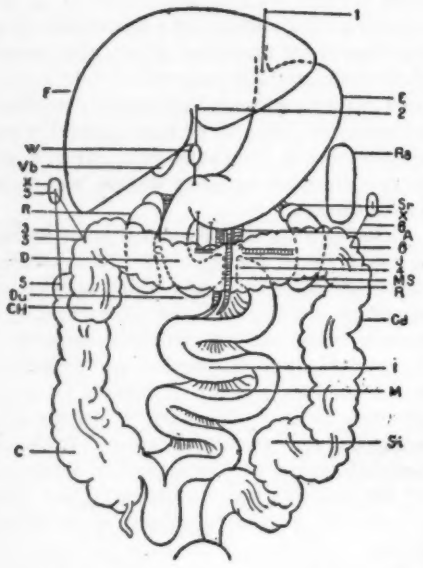
‖ De Sanctis, "Sulla Malattia di Glenard," etc., 1888.

¶ Cuilleret, "A Clinical Study on Enteroptoses, or Glenard's Disease" (*Gaz. des Hôp.*, 1888, No. 109).

** Bouchard, "Lessons on the Auto-Intoxications in Disease," Paris, 1887.

may shortly be transformed into a persistent renal ectopia. Lastly, the elimination of the ptomaïnes, thus absorbed by the kidney, implies the presence of congestion, and even of nephritis, in the subjects of gastrectasis. (Fig 1.)

FIG. 1.




Normal state (Glenard). *A*, aorta; *E*, stomach; *C*, cæcum; *Cd*, descending colon; *CH*, right flexure of the colon; *D*, duodenum; *Du*, bas fond of duodenum; *F*, liver; *I*, ileum; *J*, jejunum; *M*, mesentery; *Ms*, superior mesenteric artery; *R*, kidney; *Ra*, spleen; *Si*, sigmoid flexure; *Sr*, suprarenal capsule; *Vb*, gall-bladder; *W*, foramen of Winslow; *X*, tenth rib; 1, œsophagus; 2, gast. hep. om.; 3, ligament, pylori.-colic; 4, ligament. mesent. sup.; 5, suspensory fold of right flexure; 6, ligament pleuro-colic.

Hence, then, to sum up, a dyscrasic state of the blood produced by the presence of ptomaïnes formed in the dilated stomach, direct action of these ptomaïnes on all the departments of the organism, and, in particular, on the cerebro-spinal axis, the liver, the kidney,—such, according to Glenard, is the mechanism by which we are to explain the symptomatology so peculiar and so variable of gastric dilatation.

There remains to be explained the primordial cause of the dilatation and the enfeeblement, for the most part congenital, of the muscular coat of the stomach. This is a point which is still very obscure, but it seems, nevertheless, that in those subjects whose stomachs lack equilibration, the origin of the dilatation goes back to the first periods of life, and results from the two following factors,—heredity and faulty alimentation. I have no doubt as to the first factor, and can affirm that I have often seen instances where individuals with dilated stomachs have had offspring who became sufferers from the same affection. Then, again, errors and defects of diet in early life have much to do with the genesis of the complaint; but we are obliged to call in, besides, another auxiliary factor,—namely, a predisposition of nervous origin which favors distention of the muscular coat of the stomach.

But what appears strange in this connection is that dilatations consecutive to mechanical obstructions of the stomach, dilatations which form a special group that is well known, are not accompanied by the nervous phenomena which we see supervene in subjects of gastrectasis, which I may call spontaneous. I have seen enormous stomachs resulting from an obliteration of the pylorus, and I have very rarely observed in these cases the symptomatic aggregate which characterizes those "whose stomachs lack equilibration."

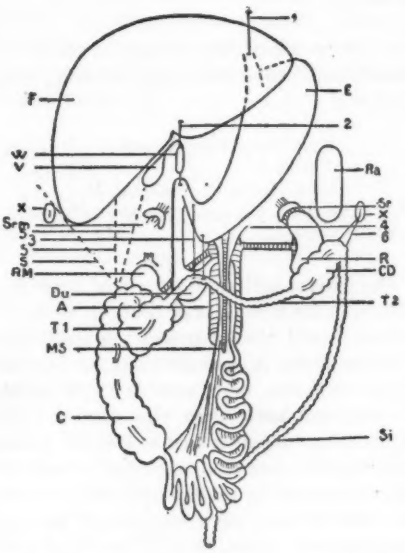
Of the two theories, that of Glenard and that of Bouchard, which shall we choose? As for myself, I have long regarded Bouchard's theory as the most worthy of acceptance as being the most conformable to physiological data, and as involving less of hypothesis than the other.

It is in the large intestine that Glenard places the primordial and necessary cause of the enteroptosis, but this in his estimation is a mechanical trouble, bringing about physical disturbances. According to this writer, the prolapsus of the right flexure of the colon entails the downward displacement and contraction of the transverse colon, which he describes under the name of *corde colique transverse* (transverse colon-cord) on account of the corded feel of the gut. This downward displacement and this diminution of calibre enables one easily to feel the beatings of the aorta in the neurasthenic. To this corded condition of the transverse colon succeeds an ampullary dilatation of the left flexure of the colon, then a diminution of calibre of all the descending colon and of the sigmoid flexure to the anus. This is what Glenard describes under the name of *cordon sigmoïdal.* (Fig. 2.)

I am far from having noted in all my cases of gastrectasia these mechanical and physical troubles, and even in a certain number I have observed, on the contrary, a dilatation of the descending colon, and I believe that there are a good many patients who present the nervous

disorders of gastric neurasthenia, and in whom these disorders depend not on a dilatation of the stomach but on a dilatation of the colon, a dilatation affecting all parts of this intestine. These neurasthenic subjects, then, are sufferers from dilatation of the large intestine, and are to be cured, not by lavage of the stomach, but by antiseptic lavage of the colon and rectum.

FIG. 2.




Pathological state (Glenard), complicated with a nephroptosis of the third degree. *A*, aorta (batt. epig.); *C*, cæcum (downward and inward displacement); *Cd*, left flexure of the colon (in place), preceded by an ampullary dilatation; *Du*, bas fond of the duodenum; *E*, stomach, distorted by the transverse colon; *F*, liver; *Ms*, mesentery; *R*, kidney; *Ra*, spleen; *Rm*, kidney (ectopia of third degree); *Si*, *cordon sigmoidal*; *Sr*, suprarenal capsule; *Sm*, ibid. on the right side, with its ligament of union to the kidney torn after distention (whence ectopia of the kidney, according to Glenard); *T*1, first part of transverse colon in prolapsus; *T*2, *transverse colon cord*; *X*, tenth rib; *V*, gall-bladder; *W*, foramen of Winslow.

Moreover, Glenard and Bouchard have much to say about the troubles of defecation which affect almost all victims of dilatation. There is constipation, the fæcal matters are pasty, fetid, and acid, the acidity, according to Bouchard, being due to acetic acid; there is sometimes, even, mucous or pseudo-membranous enteritis.

But, to come down to practical points, it is not necessary for you to bother yourselves too much about either Bouchard's or Glenard's theory, for, strange as it may seem, these two theories, which are so dissimilar, result in therapeutic principles and means which are almost identical.

Glenard intends that his treatment shall fulfil the following conditions:

1. To combat the visceral prolapsus and augment the abdominal tension by means of an appropriate abdominal belt.
2. To regulate the intestinal evacuations.
3. To institute a special regimen in order to tonify the digestive organs.

If to these means you add gastro-intestinal antisepsis, you will have the treatment counselled by Bouchard, and in conjoining lavages of the stomach and intestine, you will have that which I propose.

Before entering upon the exposition of this treatment, which is the real object of this lecture, I ought to tell you what are the signs which will enable you to detect dilatation of the stomach, and how you ought to proceed to examine those whose stomachs lack equilibration; but were I to set forth all the details which pertain to this subject, it would take several lectures,—therefore I shall have to refer you to Bouchard's later writings, and especially to those of Glenard, who has stated with great method and perspicacity the mode of exploration of the abdomen in these cases.*

I ought to remind you just here that the most important sign of dilatation is the *bruit de clapotement*. In order that there may be dilatation of the stomach, this bruit must, as you know, be perceived below the oblique line which passes from the borders of the false ribs on the left side to the umbilicus. Any *bruit de clapotement* heard above this line must be considered as physiological.

It is not always easy to perceive this *bruit de clapotement*, even in the case of dilatations that are considerable, and this for two reasons: first, the vacuity of the stomach, and, secondly and chiefly, the contraction of the muscles of the abdomen, and in particular, of the recti muscles.

It is easy to remedy the first cause by making the patient drink a glass of cold water while fasting, but it is more difficult to overcome the contraction of the abdominal muscles; you will, however, ordinarily succeed by making the patient take a long breath, or by pressing suddenly with one or two fingers over the abdominal wall, or, by

* Glenard, "*À propos* of a Case of Gastric Neurasthenia," Paris, 1887; "Conférences Cliniques de l'Hôtel-Dieu de Lyon" (*Province Médicale*, 1887).

grasping with both hands the two sides of the abdomen and making over the belly quick, violent movements, such as those which we cause when we wish to detect the Hippocratic succussion in cases of pneumothorax.

Do not forget to examine attentively the iliac fossæ; often you will find there a bruit of gaseous collision, which, by its timbre, is differentiated from the *bruit de clapotement;* this bruit indicates the dilatation of the large intestine. I pass now to the study of the treatment which you should institute in cases of dilatation of the stomach. This treatment comprehends two great indications; the one is addressed to the troubles of the stomach, the other to the state of the nervous system. To remedy the gastro-intestinal disorders, you may employ two orders of means,—the one constituting by their aggregate intestinal antisepsis, the others forming the group of mechanical processes put in usage in order to act directly on the stomach.

I assign the first place here to intestinal antisepsis, advocating the views of Bouchard. As I have already said, I consider intestinal antisepsis as the capital point in the aggregate of therapeutic means to be employed in cases of dilated stomach.

This intestinal antisepsis comprehends several processes or sets of agencies. We may, for instance, endeavor to benefit our patient by pharmaceutical remedies, or we may hasten the expulsion from the intestine of septic matters; we may interfere directly by washing out the stomach or intestine; or, lastly, by a special dietetic regimen, we may reduce to the minimum the quantity of ptomaïnes formed in the alimentary canal. Let us examine now how we are to proceed to fulfil each of these indications.

Among the pharmaceutical remedies, we have certain inert powders and disinfectant substances. The success formerly obtained by Trousseau in the treatment of diseases of the stomach with subnitrate of bismuth, by Patterson with the mixture of magnesia and bismuth, by Belloc with his powder of charcoal, is to-day easily explicable, as all these substances are antifermentative, and to a certain extent prevent putrefactive changes in the stomach. The discovery of salicylate of bismuth, and more recently of naphthol, has enabled us still more effectually to carry out intestinal antisepsis.

You may, then, in your cases of dilated stomachs, make use of capsules containing these antifermentative powders. Where the dilatation is inconsiderable, and the gastric and intestinal putridity is not excessive, you will make use of the following formula:

Salicylate of bismuth,
Magnesia,
Bicarbonate of soda, aa 10 grammes (150 grains). M.
Divide in chart., no. xxx. Powders to be taken in capsules.

In cases when the disease is more advanced, you can employ the following combination:

Salicylate of bismuth,
Naphthol *a*,
Carb. lig., aa 10 grammes. M.
Divide in chart., no. xxx. Powders to be taken in capsules.

The patient will swallow one of these capsules with his breakfast or dinner.

You should always prefer the naphthol *a* to the naphthol *β*, the first being, as Maximowitch has shown, more soluble, more antiseptic, and less toxic than the second. You should also remember that in certain persons with dilated stomachs, naphthol is not well supported, even in small doses; in such cases you will have to be content with the first formula.

Laxatives have a rather important *rôle* in the treatment of dilated stomachs. They enable us to obviate the constipation so frequent in this disease, and to expel from the economy the toxines which are produced throughout the whole length of the digestive tube. All the laxatives may be employed, from the purgative waters to the laxative powders (senna, sulphur, rhubarb, etc.).

As I intend to devote an entire lecture to the treatment of constipation and diarrhœa, I shall then set forth with considerable completeness the history and uses of the new purgatives at your disposal.

I will content myself at present by telling you that I use ordinarily either the natural purgative waters,—Villa-Cabras or Rubinat,—a tumblerful being taken in the morning on an empty stomach, or the following laxative powder, of which the patient may take a dessertspoonful in half a glass of water between nine and ten o'clock in the evening:

Pulv. sennæ,
Pulv. sulphur, aa 6 grammes (℥iss);
Pulv. anise,
Pulv. fennel, aa 3 grammes (gr. xlv);
Pulv. cream of tartar, 2 grammes (℥ss);
Pulv. licorice, 8 grammes (℥ii);
Pulv. sugar, 25 grammes (℥ vi¼). M.

If the majority of patients with dilated stomachs are constipated, there are cases, on the other hand, where there is a manifest tendency to diarrhœa. I formerly counselled for these diarrhœas sulphide of carbon water, obtained by agitating sulphide of carbon with water; since the introduction of naphthol, I prefer this latter medicament.

In these cases, I modify somewhat the composition of the capsules, and have them prepared in this way:

Salicylate of bismuth,
Naphthol *a*,
Prepared chalk,
Phosphate of lime, āā 10 grammes (gr. cl). M.
Divide into forty capsules; one capsule to be taken with breakfast and dinner.

What, in my experience, succeeds best in these cases of dilatation with diarrhœa, is lavages of the intestine by the aid of antiseptic solutions.

This leads us to the third indication which we have to meet, in order to obtain in these subjects of dilatation, intestinal antisepsis.

In the great dilatations of the stomach, lavage of the stomach is obligatory, and this especially when the substances contained in the stomach have a tendency to putridity. I need not here dwell on the manner of performing lavage of the stomach, which I have treated quite fully in my "Diseases of the Stomach and Intestines," and in "New Medications."

The alkaline waters are generally employed for these lavages; when there is putridity, you can make use of antiseptic solutions, either of boric acid, 10 per 1000, or naphthol *a*, 1 per 1000.

These same lavages, applied now to the large intestine, are indicated, as I have already said, in two circumstances; when there is putrid diarrhœa, or when there is dilatation of the large intestine, with accumulation of gas and fæcal matters. Cantani has given to this therapeutic method the name of *enteroclysm*; the best method of practising enteroclysm consists in employing the Debove tube furnished with its funnel. Introduce, as high up as possible into the rectum the semi-rigid part of the tube, fill the funnel with the medicinal solution, and, according to the height, you will augment the force and rapidity of penetration of the liquid introduced into the large intestine.

If you cannot obtain a stomach siphon, you can make use of a large irrigator or fountain-syringe, furnished with a long rectal canula. The quantity of liquid should not be less than a quart; as for the solution to employ, you can use tepid water, or, when the putrescence is very marked, water containing a little naphthol or boric acid. Dissolve 1 gramme (15 grains) of naphthol *a* in a quart of water, or use a one or two per cent. solution of boric acid. Every morning the patient should wash out the lower bowel with this solution.

The final indication under this head is to regulate the diet. This matter of dietetic regimen is of great importance, for thereby we may hope to combat both the intestinal putridity and the dilatation.

Three things are to be avoided by persons with dilated stomachs,—first of all, liquids, and, in general, articles of food in a liquid or semi-liquid state; then multiplicity of meals; and, lastly, aliments which may furnish ptomaïnes in too great abundance to the economy.

Subjects of gastrectasia support liquids badly, and Chomel a long time ago gave to these particular digestive ailments the name of dyspepsia of liquids. Put your patients, then, on a dry diet, allowing them not more than half a pint of drink with breakfast and dinner, no liquid (if possible) to be taken between meals.

What shall the drink be? Plain water in preference to the gaseous waters, which are badly supported. As for the alkaline waters, the least gaseous should be selected, and when Vichy or Vals is drunk with meals, the bottle should be uncorked some time beforehand in order to allow the excess of carbonic acid to escape. As for wines, a light white wine should be chosen, like those of Central France. Pure wine and spirits should be eschewed.

In speaking of wine, there is a medicinal wine which should be interdicted; I refer to wine of quinine. There are many physicians who have the habit of ordering quinine wine in all states of enfeeblement, without informing themselves beforehand of the state of the stomach; it is a bad habit, and deplorable in its consequences. Quinine wine increases the digestive troubles in persons with dilated stomachs, and thus aggravates their condition. Hence you should be pretty sure of the integrity of your patients' stomachs when you prescribe it.

As before said, the patient is forbidden to drink between meals; is to take no tea or coffee, and is forbidden soup; the latter, however, may be permitted if made thick.

Quite as important is the prescription of the hours of meals. The slowness with which in persons with dilated stomachs alimentary substances pass from the stomach to the intestine, makes it imperative that there should be a long interval between meals, so that when food is taken it may find the stomach empty, or nearly so. There should be seven hours between breakfast and dinner, and the patient should not be allowed to eat between these meals.

You know well that in polite society it is customary, between breakfast and dinner, to have tea at about five o'clock in the afternoon, when a light meal is taken; this is a custom borrowed from England and the United States, and must be given up by those that have dilated stomachs.

You may lay down the rules for meals as follows:

A light breakfast at seven o'clock; a second at 11.30 A.M.; and dinner at seven in the evening. Many persons can well dispense with the first breakfast, and in that case will take but two meals a day,—the one at 10 A.M., and the other at 7 P.M.

As for the kinds of food to be chosen, it is desirable to avoid the introduction of all alimentary substances capable of furnishing too great a quantity of toxines, and, in starting from this principle, you will have to prohibit, in the first place, game, then fish, which too rapidly spoils, also shell-fish and crustaceans and old cheese. In giving directions with regard to meats, you will insist that they shall be well cooked; cooking, in fact, opposes to a certain extent the production of cadaveric alkaloids. Hence, instead of ordering rare-done meats, or meats scarcely cooked at all, you will prescribe meats thoroughly stewed, boiled, or broiled, beef *à la mode*, calf's jelly, broiled or roast fowl well seasoned, stewed chicken, etc.

But it is in these cases that the vegetarian regimen suits admirably. Vegetarianism is destined to have a rather important *rôle* in the treatment of affections of the stomach, and therefore I propose to devote an entire lecture to this subject. Let it be sufficient for my present purpose to advise you to prescribe for your patients a diet largely of eggs, cereals, green vegetables, and fruits.

I come now to the mechanical means which may be used to combat dilatation of the stomach. These mechanical means are of three orders,—abdominal belts, massage, and electricity.

In the theory of enteroptosis, abdominal supporters play a considerable part, hence Glenard places them at the head of his therapeutic measures, and he recommends an abdominal belt, which he calls *sangle pelvienne*, of which he gives a detailed description in his exposition of the treatment of enteroptosis (*Lyon Médical*, June 26, 1887). From this description I borrow the following details:

Glenard's *sangle* is a belt of elastic webbing, twelve centimetres (five inches) in width, and from sixty-eight to seventy-five centimetres (twenty-seven to thirty inches) in length. To one of the extremities are attached three parallel bands of elastic material four and a half centimetres (about two inches) in width, and thirty-one centimetres (twelve inches) in length. To the other extremity are sewed three buckles, each five centimetres (two inches) in width, and placed side by side. Perineal straps fix this belt to the inferior part of the abdomen, so that it is placed just above the pubes, and its upper border does not extend above the crest of the ilium more than a finger's breadth.

The figure which I here show you indicates how this pelvic girth should be constructed, and if I insist upon all these details, it is because it is difficult in Paris to obtain a belt of the kind rigorously made according to the directions of Glenard. (Fig. 3.)

This supporter, which is especially applicable to subjects of dilated stomachs, with an abdomen lean and excavated, often gives patients considerable relief. Glenard insists that the relief thus obtained is a proof that his theory is right. I believe, with Bouchard, that the benefit derived from Glenard's supporter is due to the fact that the tractions on the dilated stomach are lessened thereby, whatever may be the theory adopted to explain this dilatation.

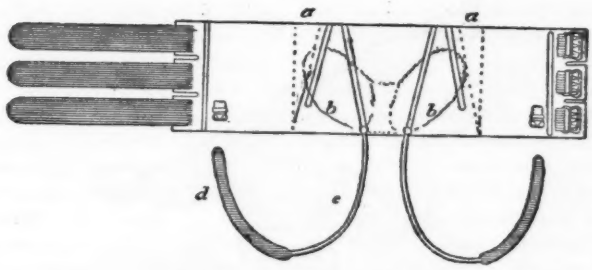
The other mechanical means for the relief of dilatation of the stomach is massage. You see massage performed every day in my hospital by one of my pupils, Dr. Hirschberg, of Odessa, who has published in his inaugural thesis, and in the *Bulletin Général de Thérapeutique*, the principal results thereby obtained.*

I refer you to these memoirs, where you will find described with great care the method to be employed in practising massage, only reminding you that it comprehends two parts,—the massage of the muscles of the abdomen

* Hirschberg, *Thèse de Paris*, 1889, and *Bulletin de Thérapeutique*, September 30, 1887, and September 30, 1889.

and massage of the stomach. In performing the first, you make light passes over the oblique muscles, followed by a few slow and superficial kneadings and some strokes with the side of the hand; then you proceed to massage of the stomach. After having well marked out the stomach, you produce with the palm of one hand, or of both hands, pressures at first light, then stronger and stronger, going from the greater curvature of the stomach to the pylorus; then you endeavor to grasp the stomach and knead it, always aiming to press the alimentary mass towards the pylorus; the *séance*, which should not last more than half an hour, is terminated by massage of the intestine, and especially of the colon.

FIG. 3.




*Sangle pelvienne* of Glenard.

In stomachs that are very much dilated, and especially in the constipated, this practice of massage of the abdomen is excellent, not because it acts directly on the dilatation or much diminishes the extent of it, but because it provokes the contractions of the stomach and of the intestine, and thus opposes the too prolonged sojourn of aliments in the digestive tube.

I shall say but little of the employment of electricity. Although of late electrotherapeutists have proposed anew the electrization of the stomach, the attempts which we have made have given us only results which were so uncertain that we have abandoned the method.

Moreover, if I believe that we may combat efficaciously the disorders which are the consequence of dilatation of the stomach, I have little faith in the possibility of curing the dilatation itself, for it is difficult to restore to its natural dimensions a stomach that has been distended for many years, and this would be possible only by a line of treatment which is quite out of the question,—namely, by absolute abstinence. We see, in fact, in persons affected with stricture of the œsophagus or cancer of the cardia, the stomach, and the entire intestinal mass atrophied to such a point that they henceforth occupy a scarcely appreciable place in the abdomen.

But I do not think that by acting directly on the muscular fibres of the stomach, whether by massage or by electricity, we can bring about such contractions of the muscular coat that these can cause the gastrectasia to disappear. This is why you have not seen me prescribe the tetanizing medicines so called, such as strychnine and its derivatives, —Baume's bitter drops, for instance, which I see so often ordered in these cases. To obtain from these tetanizing medicaments real effects on the muscular coat of the stomach and intestines, it would be necessary to administer them in such doses that there would be more danger than profit therefrom.

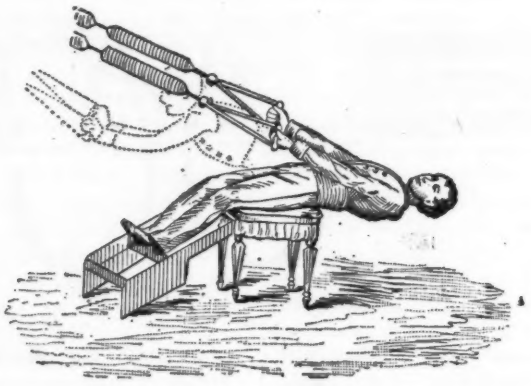
It remains for me to speak of the general tonic treatment that should be employed in cases of dilated stomach. Under this head hydrotherapy and muscular exercises play a considerable part. They act by stimulating the entire organism, and by diminishing the excitability of the nervous system. You can employ all the procedures of hydrotherapy, and, in particular, the cold douches, which should be very short, rules for the administration of which you will find in my "Hygienic Therapeutics."*

All the muscular exercises are also indicated. You will, of course, adapt them to the occupations and to the sex of the patients; but I would especially recommend you to employ those exercises which the patient can practise at home by the help of opposition gymnastics. The patient, seated in a chair, with the feet resting on a stool fixed to the

* *Vide* THERAPEUTIC GAZETTE, January 16, 1888, p. 1.

floor, exercises tractions on some elastic spiral springs attached to the upper part of the wall of the room. These movements cause flexions and extensions of the trunk on the pelvis, exercises which promote the descent of the fæcal mass in the intestines, and of alimentary matters in the stomach. (Fig. 4.)

FIG. 4.



Abdominal gymnastics (Pichery).

Are the mineral waters beneficial in the treatment of these patients whose stomachs lack equilibration? Glenard extols Vichy and sends patients to the springs Grande-Grille and Hôpital, the water to be drunk on the spot. I believe that it is necessary to be very prudent in this regard. Nevertheless, I recognize the fact that in gastrectasia with congestion of the liver (a very common conjunction), and with sour stools, the waters of Vichy are beneficial, but ordinarily hydrotherapy judiciously applied may suffice.

Such, gentlemen, is the aggregate of therapeutic means which you may put in execution in the treatment of gastric neurasthenia. I may sum them up in the following brief rules, which you may lay down when you have patients thus affected:

1. The patient may take with each meal 5 grains each of salicylate of bismuth, magnesia, and bicarbonate of sodium in capsule.

2. He may take on going to bed a dessert-spoonful of the compound licorice powder (for formula, see above).

3. Every day he may have a cold-jet douche, applied along the vertebral column. The duration of the douche should not exceed fifteen seconds (if the patient be a lady, douche the feet with warm water); energetic dry friction with a flesh-brush after the douche.

4. Walks in the open air, muscular exercises (opposition gymnastics, fencing, etc.) are beneficial.

5. Pursue with rigorousness the following dietetic regimen: Let there be seven hours at least between the two principal meals. If the patient takes three meals a day, the first should be had at 7.30 A.M., the second at 11 A.M., the third at 7.30 P.M. If two meals only should be eaten, let the first be at 10 A.M., and the second at 7 P.M. Never to eat or drink between meals.

Let the diet consist largely of eggs, cereals, starchy foods generally, green vegetables, and fruits.

*a.* The eggs to be but little cooked (creams, custards).

*b.* The starchy foods to be thoroughly cooked (mashed potatoes, stewed beans, lentils, revalescière, racahout, lactated farina, panada, rice in all its forms, macaroni, biscuits, buns, hominy, oatmeal, etc.).

*c.* The vegetables should also be well cooked (boiled, mashed carrots, turnips, peas, cooked salads, spinach, etc.).

*d.* The fruits should be stewed, with the exception of strawberries and grapes.

Use toasted bread instead of plain bread. Eschew from the dietary, game, fish, mollusks, crustaceans, old cheese, as well as liquid foods, and soups that are too thin.

To be permitted: soups that have been thickened, gruels of various cereals, wheat, rice, Indian corn, etc.

As for drinks, take only a tumblerful and a half of a mixture of light white wine with ordinary water or Alet water; no gaseous

waters; no pure wine; no whiskey nor other distilled liquid.

You see the important part played by diet, and especially the vegetarian diet, in the treatment of gastrectasia. This is a subject which needs to be developed with fulness, and this is what I propose to do in the next lecture, but I hope that I have shown you in this lecture what precious resources are at our command in the management of these cases, so numerous at the present day, of neurasthenia with dilatation of the stomach.

NOTE.—In the article "On New Analgesics," in the December number of the THERAPEUTIC GAZETTE, the last paragraph pertaining to the uses of acetanilide was unavoidably omitted.

"The elective action of acetanilide is seen chiefly in diseases of the spinal cord attended with pain. Thus, in the *douleurs fulgurantes* of tabes dorsalis, excellent results have been obtained. I possess a great number of observations of locomotor ataxia where no other medicine gave relief, and where the lightning pains disappeared as if by magic under the influence of 7 or 8 grains of acetanilide administered eight hours apart.

"I have even gone further, and maintained that in certain cases of epilepsy this medicine may be curative. I have notes of three cases of epilepsy which have been treated for eight months by this remedy; these patients have now had no return of their fits for three years. Along with this success I have, however, had numerous failures, and the number of the latter is such that it may be affirmed that it is only exceptionally that acetanilide can cure true epilepsy. At the same time, I always advise epileptic patients who cannot be cured by or cannot take bromide, to make a trial of acetanilide."

---

## *TWO OR THREE STRONG, PRACTICAL THERAPEUTIC POINTS OF EVERY-DAY APPLICATION.*

BY HENRY M. FIELD, M.D., NEWTON, MASS.*

A PERSONAL and clinical experience, in consultation and otherwise, within a brief period of three weeks, has made me feel the necessity of accentuating information upon the use and abuse of two powerful drugs in constant employment by the profession. A third point will be made later, in a different direction, if time and space allow.

1. As to *digitalis*. Any one who has studied attentively Fothergill's prize essay upon this material, and who, for many years later, has tested the correctness of the writer's conclusions, by an almost daily use of the remedy in his practice, must, as I believe, pronounce this masterly monograph indeed *magnum opus*, —a treatise more consistent and convincing, as viewed from a physiological, philosophical, clinical stand-point, than any other monograph yet published, devoted to the discussion of whatever remedy.

After such instruction, and supported by such subsequent experience, the practitioner may assert with confidence, however eminent the position of the authority whom he antagonizes, *digitalis never does, digitalis cannot, exert "a fourth stage of action,"* under conditions of largely toxic dose.

Its influence is of necessity, and is invariably, along one line,—from the point of physiological action brought to bear upon a weak heart, with result of energized systole, to that point where a veritable cardiac contracture is produced.† It is no more possible to establish a condition suggestive of cardiac paralysis in diastole, by largely toxic doses of digitalis, than it is possible to energize heart-action by a rightly proportioned dose of aconite. Any one who has seen, as has the writer, the tetanized heart and "cordy pulse" following upon the ingestion of 2 drachms tr. digitalis leaf, and has further witnessed the speedy and progressive relief afforded upon exhibition of an (otherwise) toxic dose of aconite, has had in striking form the demonstration which a more attentive clinical study of digitalis in its frequent medicinal use would less strikingly establish.

And now for the more practical point, which the foregoing discussion may serve to introduce. I make the broad statement, after long and due consideration,—a statement as true as it is deplorable,—to wit, that many authorities, giving instruction either by text-book, by lecture, or posological tables, exaggerate the dose of digitalis. First of all, it may be said that, for cardiac conditions indicating this drug, whether neurotic or struct-

* Professor of Therapeutics, Dartmouth College.

† Just as surely as aconite acts along one line, but in an opposite direction,—from the status produced by its calmative influence upon the too sthenic heart to that which is represented by paralysis in diastole and which brings death.

ural, we have in a concentrated tr. of digitalis leaf the one trustworthy, pharmaceutical preparation of the drug; and, second, the cases and conditions are few and seldom met with that will bear a larger diurnal dose than 15 drops of such tincture,—*i.e.*, 5 drops after each meal. Press the remedy further, and pretty surely evidence will be presented of a tetanized heart, although perhaps in slight degree.

Within the present week the writer was called in consultation by a competent physician,—a recent graduate of one of the oldest and most eminent medical colleges of our country. His patient evidently required digitalis, and the doctor was *feeding* it to her,—10 drops every two or three hours! My advice was emphatic. Let your patient have time to recover from digitalis-poisoning, and then give 5 drops three times (or, at the most, four times) in the twenty-four hours. The young physician reported to me twenty-four hours later, with radiant face, the satisfactory change set up in his patient, pursuant to the change of dosage; but added: "And yet I can show you, doctor, from my note-book, that the method I was pursuing in my use of digitalis was strictly in accordance with the instruction I received from our professor of therapeutics at —— University."

This is the melancholy fact of my recent experience. Not that a young physician was unfamiliar with digitalis posology, but that he had been misinstructed by one who holds a position of eminence and authority in one of our foremost medical colleges.

Permit a final remark. The chief experience of the writer in the use of the drug under discussion is, as applied to the subject of a "weak and irritable heart," caused, it may be, by various excesses, but most often encountered in those of full adult age, and who have long been overpressed, overburdened by business responsibilities. Few other results in practical therapeutics are so sure to be satisfactory as those which follow an application of digitalis in cases of this description; but success rests upon attention to three inevitable conditions,—viz., reform, so far as possible, in the fault which produced the cardiac difficulty; a systematic regular ingestion of the tincture, t. i. d., for months together; and, finally, a proper adaptation of doses. As respects the last specification, it must be added that digitalis *is not cumulative.* The system responds to its influence as freely and promptly after three months' use as it did at first; and, in a large and long experience, I can hardly recall the case that required a larger dose than 5 drops; and this, however long the remedy was continuously employed. On the other hand, I have memoranda of a few well-marked, unmistakable cases, where, by virtue of idiosyncrasy, even 5 drops proved too large a dose, while the 3- or 4-drop dose promptly met the individual indication.

2. As to the use of the active principle of *nux vomica.* It has, for many years, been an axiom with me, in my discussion of this drug before the medical class, *never use strychnine!* And, when universal and interested attention was secured by the utterance of a statement so paradoxical, the assertion was repeated with renewed force, but with the explanation, or corollary, *never use the alkaloid, but use the salt!* If I mistake not, no other alkaloid is so insoluble as that of nux vomica. Water hardly affects its solution in ratio of 1 to 5000; whereas a salt, the sulphate of strychnine for example, is soluble as 1 to 10.

It is true that alkaloidal strychnine may find acid in the stomach which should effect its solution; but one of the most frequent exhibitions of this powerful remedy, on the part of the general practitioner, is to meet an indication of apepsia. Here the *larger doses* alone are effective. At the same time that we cannot safely trust either to the presence of the gastric juice, or of gastric energy, in quantity and degree sufficient to procure the digestion and appropriation of the potent drug administered. All at once is set up signs of cumulative action,—symptoms of strychnine-poisoning; whereas a soluble strychnine—the sulphate of strychnine—can be given in any dose and repeated with whatever frequency the judgment of the skilled physician may determine, with assurance of due and complete elimination after its therapeutic service has been accomplished.

Such having been my teaching and my intended practice, corresponding to the rational basis of one and the other thus briefly sketched, for many years, I have seldom found so great occasion for self-reproach as that which was afforded by a discovery within the past fortnight that certain of the largest, most reputable manufacturing pharmacists of the country had long provided the medical practitioner with pharmaceutic products calculated to antagonize exactly that which I have taught and that which I supposed I had done in behalf of my patients. The grave error to which reference is made presents a double fault and

also a strange inconsistency; for while salts of strychnine were minimized to an extent as if with purpose to play into the hands of homœopathy (*i.e.*, parvules of the strychnine salt being manufactured of range from the $\frac{1}{200}$ to the $\frac{1}{100}$ grain, and at this point a stand was made), the insoluble, the alkaloid strychnine, was given to the profession in parvules of strength as great as the $\frac{1}{20}$ grain!

It is greatly to the credit of, perhaps, the largest and most influential drug-house in New York City that, attention having been called to this error by recent investigations, the promise is given that henceforth alkaloidal strychnine shall be stricken from their sale lists; and that parvules of varied strength, calculated to meet the wants of the practitioner, shall contain strychnine *only in the form of salt.*

The benefit which certain eminent houses, like the one to which reference has just been made (and which require not mention by name), have conferred upon the medical profession, whether as represented by the metropolitan physician or the physician who is forced largely to carry his own remedies, and whose field of labor is in remoter districts, has not received the recognition deserved; shall we be obliged to confess that such benefit extends even to an occasional education of our profession in some prominent point of practical therapeutics, in default of previous education in the medical school or through the communications of standard text-books (as in the point just made)?

Our third point shall be discussed in very few words. In a transcontinental journey, made by the writer two winters ago, the little and elegant aperient parvule, containing $\frac{1}{8}$ grain ext. bellad., $\frac{1}{60}$ grain strychn., and $\frac{1}{8}$ grain aloin was found, so far as inquiry was made, in every city and town large enough to support a drug-store, from Boston to Los Angeles. The universal distribution of this parvule, its universal acceptance by the profession, afford evidence enough of its value; and yet it is an object of fair, adverse criticism in three particulars, corresponding to the three elements which enter its composition.

1. $\frac{1}{8}$ grain aloin is hardly effective, even as aperient, in the average subject of constipation; in the majority of cases observed, the parvule must be repeated once or twice before an evacuation of the bowels is secured. Again, the ext. bellad. has such strength, as nowadays prepared by the competent pharmacist, that $\frac{1}{8}$ grain, repeated two to three times in the course of twelve to eighteen hours, will pretty surely occasion an uncomfortable degree of physiological impression; and an emphatic physiological impression of belladonna should always be spared the patient, if possible. What syndrome of drug symptoms is more uncomfortable than the dry throat, the foul taste of mouth, the flushed face, which belladonna is so prompt to produce, and to which may be superadded dilatation of pupil and disorder of vision. What other drug is so likely to cause a measure of toxic action within the range of medicinal dosage!

Finally, the strychnine of our parvule is, supposably, designed to energize peristalsis; but will $\frac{1}{60}$ grain of strychnine, given by mouth, effect this purpose? "I trow not."

Permit a preliminary remark, prior to the introduction of the formula I am about to propose, and I am done. Rutherford, etc., have shown in their physiological experiments that ipecac, in quantity from half a grain and upward, exerts somewhat of a cholagogue action.

After consultation with one or two neighboring practitioners and with our local drug firm, a small pill (or moderately large parvule) has been manufactured which both meets the criticism made to the parvule, and (I believe) will meet the indications of daily practice. This is the formula:

℞ Aloin, gr. $\frac{1}{3}$;
Strychn. sulph., gr. $\frac{1}{40}$;
Ext. belladon., gr. $\frac{1}{10}$;
Pulv. ipecac., gr. $\frac{1}{2}$. M.
Pil. No. 1 ft.

Now, generally, one such pill will be sufficient, acting within the range of aperient influence; but if it has to be repeated at the end of five to eight hours, the patient escapes the noxious belladonna impression, and, it goes without saying, is safe as respects the strychnine.

The obvious remark may be added that $\frac{1}{40}$ grain sulphate of strychnine, repeated once or twice, would hardly be consistent with safe practice in the quite young subject; but in the adult patient—the patient of 18 years and upward—certainly three of the proposed pills could be taken within the limit of twenty-four hours with absolute security so far as the strychnine is concerned; at the same time such repetition, it is believed, will not often be demanded; and, again, it is the adult subject who will generally require this pill.

## *HISTORICAL, CRITICAL, AND SCIENTIFIC ASPECTS OF BROWN-SÉQUARD'S DISCOVERY—THE SO-CALLED "ELIXIR."*

By G. Archie Stockwell, M.D., F.Z.S., Detroit, Michigan.*

(Concluded from vol. v. p. 819.)

The results obtained have been of a sufficiently positive nature to warrant the supposition that spermine is the true factor in inducing the physiological phenomena chronicled by M. Brown-Séquard; and unless some should imagine, as has frequently been stated, that these results accrue solely to the presence of phosphorus compounds, it may here be stated that all traces of these, in each instance, were carefully eliminated in the preparation of spermine, though sometimes with considerable difficulty; further, control experiments with phosphates induced no parallelisms.

Administration in doses of .0016 gramme to cats, small dogs, and rabbits—a large warren of the latter being placed at my disposal by Mr. F. Weber—invariably induced powerful and prolonged stimulation of the sympathetic nervous system, most strongly manifested through the spermatic plexus. Manifestly it stimulates the vaso-motor centre, increases blood-pressure, and aids oxidation. In toxic doses it induces distressing tetanic spasm, and interferes with respiration by spasmodic fixation of muscles, including the diaphragm. Sometimes was manifested considerable cutaneous hyperæsthesia, from even moderate doses, and in general increased muscular, and perhaps mental, activity. While under its influence, pressure upon the lower lumbar area in the region of the genito-spinal centre, caused the induced sexual orgasm to culminate in emission. In almost every instance the natural salacity of male rabbits was greatly increased, the individual passing from female to female almost without intermission, until the latter refused to accept further embraces. One that succumbed to tetanic spasms induced by an overdose, first exhibited a condition of priapism that led to copulation, though without culminating in emissio seminis, as judged from lack of the epileptiform spasm that usually marks the climax of the act; the creature died, apparently, in great agony, the intromittant organ remaining without the cloaca in a state of erection to the last, and even for some little time after death. A female rabbit which had long been supposed sterile from age, after several injections of .0008 gramme, rapidly improved in strength and flesh, and ultimately conceived, though the latter result was doubtless due to introduction to a young, vigorous, and strange male, rather than the salt.

In one aged feline the vital powers were so far stimulated as to secure, within seventy hours after the third injection, the healing of a hitherto intractable suppurating maxillary sinus of more than two years' standing. In an old stallion, also, a like result accrued to an abscess and sinus of the shoulder; and likewise was induced prolonged erethism with almost maniacal sexual furor,—this from one-half grain of spermine muriate.

Experiments made upon human beings in varying conditions of health, and guarded by careful control injections, were in the main satisfactory,—sufficiently so at least to warrant further investigation and experimentation. Individuals of good habit, whose indispositions were of minor importance and due to overcharged conditions of the economy, were not benefited, but, on the contrary, in several instances severe hemicrania was induced. These are, therefore, excluded from further consideration.

In truly morbid conditions the results were by no means uniform in each case. Sufferers from chronic organic diseases, such as are at best only amenable to palliative treatment, sometimes obtained temporary relief. Others, suffering from nervous maladies, like neuralgias and other reflexes, and from ovaritis, anæmia, and lack of economic tone and vigor, in the ratio of seventy per cent., exhibited more or less definitely the physiological effects claimed by Brown-Séquard. In one instance, one grain of spermine hydrochlorate, the largest amount employed, developed brief clonic spasms of the muscles of the extremities, very painful in the calves of the legs and plantar region of the feet. In ten per cent. of the cases the accruing results were manifestly spurious,—due to "suggestion," or suspicions; in twenty per cent. wholly negative.

The stimulation obtained in man, from six to sixty-eight hours, with an average of perhaps thirty-six hours; in dogs, from $\frac{1}{40}$ grain of hydrochlorate to each ten pounds and fraction thereof in weight, erotic mania persisted for from four to twelve hours; in rabbits erethism was more fleeting, probably because it could be sexually satisfied, but the epileptiform spasms, such as are invariably

* Member of the New Sydenham Society, Lond.

manifested with the culmination of coitus, were very much heightened, with occasionally momentary insensibility. In some cases also, as the effects wore off, in human and animals alike, there was manifest lassitude, even depression. Time and space will not permit of individual details of personal cases, but my limited experience with human beings tallies closely with the extended experience of Dr. H. C. Brainerd, of Cleveland, who, in a synopsis of two hundred experiments, kindly placed at my disposal, summarizes as follows:

"The patients that received no benefit were, foremost, the class of organic and structural diseases and decrepitudes. Next, people of plethoric habit and good assimilation, abundance of blood, and who carry the evidence of living well and easily.

"The cases most immediately and permanently benefited were professional or business men of middle age, with capable, active minds, but physically feeble, comparatively free from organic disease, yet possessing but slight recuperative power, and quickly suffering weariness and fatigue.

"Specific maladies benefited were: *Hemiplegia* to the extent of dragging one arm and leg; four cases were very much improved by continuous treatments, and in two others benefit was not attained until after the fourth injection. Three cases of *locomotor ataxia* show the most pronounced and continuously progressive benefit of any of the experiments; one who walked with extreme difficulty received thirteen injections, and can now walk *straight*, with his *eyes shut*. Of five cases of *muscular rheumatism*, all were benefited; the greater the suffering and difficulty in using the limb, the more pronounced the good results. Of four cases of *sciatica*, two, suffering intense pain, obtained complete relief, and there was decided improvement in all. Of two cases of *lumbago*, relief was not so great as in other forms of rheumatism.

"In seven cases of *impotence*, those that resulted from mental work and worry were benefited, while those due to continued abuse and excesses exhibited but little improvement.

"Cases of *insomnia* caused by overtaxed mental conditions, *hypochondria*, *melancholia*, *mental depression*, *feeble heart* without valvular disease, *cardiac asthma*, *spinal irritation*, partial paralysis of neck of bladder, and cystic neuralgia, all were surely benefited.

"Two of the cases of sciatica were using morphine hypodermatically (one, from three to five times daily), and both *report* relief from the habit. Two other cases, however, received not the least benefit. Three business-men who had contracted a habit of taking from two to five drinks of whiskey per day 'to brace up on,' were enabled to stop it. One reported that not only had he lost the craving, but spirits now affected him as they would one not accustomed thereto.

"While the treatment fails in a per cent. of seemingly amenable cases, yet in a large number it produces an amount of relief and benefit as pronounced as that induced by any other remedy or means, and in some cases the relief or improvement is startlingly apparent and agreeable."

Also Dr. H. P. Loomis, of New York, after experiments upon a number of cases,* concludes that the injections do, "as claimed, produce nutritive modifications in the tissues of elderly men, due probably to stimulation of the nerve-centres." And he adds: "As far as my own experiments are concerned, sufficient time has not elapsed to justify either an affirmation or denial of Dr. Brown-Séquard's second conclusion.† There is, however, in the theory sufficient ground for further experimentation." Dr. Loomis also calls attention to the fact that the fluid of Brown-Séquard should be employed with "extreme caution," and that it is far from safe to proceed upon the belief "if it does no good it can do no harm."

In my individual experiences the most notable phenomena were manifested in the persons of:

1. A negro, aged 72 years, a confirmed alcoholic and supposed sufferer from chronic rheumatism, who was led to believe the injections were intended solely to relieve his inordinate craving for spirits.

2. A lady, aged 39, "run down" through physical and nervous prostration induced by overwork and mental strain, supplemented by a severe attack of pelvic cellulitis; digestion and assimilation were sadly defective; here the injections were supposed to be for the purpose of promoting the absorption of a fatty tumor.

In the former, the first injection of spermine muriate was wholly negative. A second, twenty-four hours later, induced a rise of temperature, increased cardiac action, slight general stimulation, with momentary dizziness, and a feeling of buoyancy and exhilara-

* *Medical Record*, August 24, 1889.

† "That the alterations in muscular structure not essentially allied to old age may disappear, and a consequent recovery of former power by the tissues may supervene."

tion, all of which disappeared after a brief period. A third, after a like interval, much to his surprise, afforded complete relief from pain, and a long, unaccustomed suppleness was developed; during the next three days he could climb on and off a street-car as nimbly as any one, though heretofore complete stoppage and delay of the vehicle for some seconds had been necessitated. As the effects wore off, he again resorted to his accustomed stimulants, and engaged in a debauch that lasted for a fortnight. He then returned, and besought the injections might be renewed, for the purpose of enabling him to "sober up and sw'ar off." One-fourth of a grain of the salt certainly seemed most efficacious in this respect, though it is not improbable the effect was more moral than dynamic. At this writing he is free from pain and otherwise materially benefited, and continues to receive injections twice or three times a week. He no longer complains of "rheumatism," which, after all, was mere muscular stiffness, resultant upon exposure, excesses, ill nourishment, and irregular habits. Appetite is better than at any time for years, he asserts, and this is borne out by increased flesh, and a more sleek condition of skin and hair.

In the second case, the patient had been aspirated for the relief of her pelvic cellulitis, but, after a trifling gain enabling her to be about the house, was at a stand-still, so far as improvement was concerned, and melancholic. She suffered constantly from extremes, being either intensely constipated or dysenteric. After the fourth injection of spermine, one-eighth grain, she picked up rapidly; the bowels gradually assumed a normal condition; there is increased muscular and nerve vitality, excellent appetite, and assimilation, freedom from pain, absence of melancholia, and loss of the peculiar cachectic, drawn, care-worn appearance. Moreover, the menses have reappeared after an interval of three years, and are no longer characterized by the agony of a dysmenorrhœa, as was formerly the case. The results have been most surprising, it must be admitted. On numerous occasions camphor-water alone, instead of a solution of spermine in this fluid, was substituted, but in each instance the omission of the salt resulted in return of unpleasant symptoms, first manifested by derangement of stomach and bowels. While the injections were at first given daily, they were subsequently decreased in strength, then omitted every other day, and later employed only thrice, twice, or once a week, as occasion seemed to demand; and for some time they have been entirely suspended, and she has now gone into a shop where she performs the arduous duties of cloak-fitter and mantua-maker. No other medication was employed, except an occasional glass of Hunyadi-water, and she attributes her recuperation wholly to the latter. It is, perhaps, needless to remark her steatoma remains undiminished.

Three cases of anæmia with endometritis, and another with profuse metrorrhagia, were decidedly benefited, the latter culminating in cure with the spontaneous expulsion of a hydatid mass. In this case the spermine muriate appeared to act as an ecbolic, undoubtedly reflexedly by stimulation of the genito-spinal centre.

The foregoing I do not claim to be of absolute material value, but as evidence of the necessity for further study and experimentation. In spite of the careful control exercised, there is still room for suspicion of either coincidence, or, perhaps, *suggestion*. It may likewise be surmised that spermine is very far from offering the advantages of a universal panacea, or from being entitled to any such designation as "Elixir of Youth" or "Elixir of Life;" and from the results obtained in lower animals it is patent that it may prove equally as potent for evil as good. That its action is in many respects closely allied to strychnine, is alike evident and suggestive.

However, there are reasons for surmising, if it can be obtained in an unobjectionable way,—one that will not offend the æsthetic sensibilities of medical men and their patrons, as from spinal cords, roe of fishes (sturgeon offal is very rich therein), or by synthesis,—in quantities sufficient to supply the market at a fairly reasonable rate, that it may prove a desirable adjunct to our materia medica and *armamentarium therapeuticum*. In any event, it should not be deemed more objectionable than *propylamin*, which was at one time obtained from the accumulations of water-closets, or *pepsin*, as had from the stomach of filthy, omnivorous swine.

Regarding the irresponsible experiments undertaken, or professedly undertaken, as chronicled by the general secular press, it may be remarked that the greater number afford conclusive evidence, *per se*, of their spurious or unreliable character. It may be believed, also, that more than one case of dangerous septicæmia has developed from

such measures, since ignorance of the methods of preparing the fluid, as employed by Brown-Séquard, and of eliminating effete and dangerous products, is virtually self-confessed by the operators. The crude glandular products, under any and all circumstances, constitute a fluid of extreme instability, and tend to rapid decomposition, a process that is furthered and enhanced by the almost unavoidable admixture of blood serum. Unless obtained before,* or immediately upon the death of the animal, and rapidly prepared by filtration, with strict attention to antiseptic details, its employment is prone to be attended with most disastrous consequences, and even under all precautions it is not to be deemed absolutely safe unless the preparation is carefully examined to insure, beyond all possibility of error, exclusion of bacterial products.

No such objections obtain to the alkaloid or its salts, however, as their manufacture necessitates exposure to both boiling-water and hot alcohol, precluding the survival of septic products.

In conclusion, a few queries and comments referring to the foregoing syllogism may be both pertinent and suggestive.

1. *Why do men and lower animals that are continent display excessive energy?*

"Who is ignorant of the fact that the semen, reabsorbed into the animal economy augments in an astonishing degree the corporeal and mental forces? This powerful vital stimulant animates the whole economy, and places it in a state of exaltation and orgasm; renders it in some sort more capable of thinking and acting with ascendancy, with a superiority, as we readily observe among animals in the rutting season."† Seminal products contribute so much to courage and vigor that the *athletæ* and gladiators of Greece and Rome were forbidden sexual intercourse lest their *condition* should thereby be impaired, and strict chastity and continence for like cause was recommended to warriors. Moses commanded that in time of warlike activity the Israelites should not approach their wives. Sir Wm. Acton, M.R.C.S., says, "I am now disposed to think that semen, after it has been secreted by the testes, must be taken up again and carried into the general circulation, there to produce the effects on the system that are only noticed in men and animals who enjoy virility."‡ And again: "Admitting, then, as I now do, the reabsorption of semen, I am disposed to agree with Haller, that 'the greater part is pumped back into the blood, and there produces, as soon as it reaches the circulation, changes most marvellous,—the beard, the hair, the horn. It alters the voice and manners, for age does not produce these changes in animals. It is the seminal fluid alone which can affect this, as we never remark these changes in eunuchs" ("Primæ Lineæ Physiol.," p. 790).§ It is well known that stallions are capable of undergoing more work than geldings, and it is an old saying in Scotland that in draught the former is "equal to one gelding and a half." Also any one who has travelled in France and the Low Countries must be aware that stallions are there used by preference for all draught purposes; and for like reasons the cab companies of London prefer mares, because geldings (stallions being apt to be intractable) are unequal to the work (thirty miles a day) required.

2. *Why do individuals developing the greatest mental or physical activity exhibit, in proportion thereto, a corresponding decrease of sexual ardor?*

"They do best," says Bacon, "who, if they cannot but admit love, yet make it keep quarter, and sever it wholly from their serious affairs and actions of life; for if it check once with business, it troubleth men's fortunes, and maketh men that they can no ways be true to their own ends." It is an undoubted fact that we meet with a large

* Dr. H. C. Brainerd thus outlines the method of preparation as employed by himself:

"The fluid is taken from the glands of a young, healthy ram, which has been kept isolated for at least twenty-four hours and carefully fed. Allowing the theory of reabsorption, the spermatic veins and vas deferens are first carefully ligated as far from the testicle as practical before removal, all without sacrificing the life of the animal. After removal, the fluid contents of the spermatic veins are carefully expressed, the epididymis and vas deferens relieved of their retained semen (which is added to the previously expressed contents of the spermatic veins), and the whole diluted with an equal quantity of distilled water, and filtered through thin filtering-paper. Every vessel and instrument used is first thoroughly washed in a strong solution of corrosive sublimate and dried with alcohol, and the filtering conducted under glass. Fluid thus prepared presents no bacteria, and when used within six hours, in no instance produced any local disturbance."

† "Dictionnaire des Sciences Médicales," p. 448.

‡ "The Reproductive Organs" (seventh edition), pp. 125–128.

§ See also Gascoine's paper on "Castration of the Cervidæ," in *Proceedings of the Zoological Society*, London, June, 1856, p. 156.

proportion of unmarried men among the intellectual, and some of the ablest works have been written by bachelors. Newton, Pitt, Kant, and many others renowned for intellectual profundity, were single, and "hated women." It was from such considerations that our English ancestors ordained that resident university fellows should remain unmarried, and like reasons doubtless obtained to secure the decree of celibacy to the priesthood of the Church of Rome. Acton asserts that in the adult "the intellectual qualities are usually in inverse ratio to the sexual appetite;" that continence, or, at best, very moderate sexual indulgence, is a "great benefit to those engaged in serious studies,"* —a statement confirmed by such illustrious scientists as Darwin, Huxley, and Proctor; and that sexual quiescence "occurs principally where the intellectual powers have been very highly cultivated, or where the body has been subjected to strong and constant physical exertion."

3. *Why does excessive sexual indulgence, and waste of specific products, in both females and males, invariably tend to mental, moral, and physical impairment?*

The facts embodied in this query are so self-evident as to require no comment: all physiologists admit, in no small measure, the approximate truth of Fernel's "*Totus in homo semen est.*"

4. *Why is a larger quantity of spermine stored up in the generative and nervous systems than in other portions of the body; and why are these two systems so dependent, mutually, upon each other?*

It should be remembered that the semen is a highly organized fluid, requiring the expenditure of much vital force in its elaboration and expulsion. Even in the strongest man or animal, all the functions connected with this product are most vital and important. That the ancients revered it as the source of Life has already been shown. Camus (1772) declared it is composed of microscopical brains, an opinion not very far removed from that of the earliest writers of whom we have any cognizance, as they regarded it as a discharge from the brain and spinal cord, and called it "*cerebri stillicidium.*" The latter also employed the term *tabes dorsalis* as a synonyme for what we are pleased to denominate spermatorrhœa, and defined it as a "discharge from the spinal marrow." Hippocrates said:† "The humors enter into a sort of fermentation, which separates what is most precious and most balsamic, and this part thus separated from the rest is carried by the spinal marrow to the generative organs." And even so late as the time of Richerand, we find in his "Physiology," a query, if seminal waste may not be "self-destruction of the soul." Also M. Parise,‡ in his valuable and interesting treatise on the maladies of senility, expresses himself to the same effect, and says, "Its importance is demonstrated by the fact the very smallest quantity contains life in activity, and can communicate it; that its presence and its secretion impress the organization with an extra quantity of force and energy, whereas repeated loss of it enervates and rapidly wears out the body. It has been calculated that an ounce of semen is equivalent to forty ounces of blood. According to Bichat, the secretion of sperm is in an inverse proportion to the secretion of fat; and we at once see the reason semen is the essence of the whole individual. It is the balm of life,—one of its best and most powerful stimulants. That which gives Life is intended for its preservation!"

5. *Why is spermine found in excess in the detritus of wasting diseases, and in an unresolved and (partially, at least) insoluble state in anæmias and leucocythæmia?*§

6. *Why do marked stimulant and tonic effects commonly follow upon replacement and reabsorption into the general economy?*

7. Why do certain foods, now known to contain this principle in comparative excess, obtain a reputation as sexual stimulants? Are they not truly so, and the evidence of their activity first manifested in the central nervous and genital systems?

8. As all forms of flesh contain spermine in greater or less proportions, may not this fact be the secret of the superior physical and mental vigor usually manifested by meat-eaters and omnivorous feeders as compared with strict vegetarians?

* Continent celibacy in women, however, appears specially prone to induce phthisis. There is lacking a balance, so to speak, that can be remedied only by the grand function of wifehood and maternity. It is also likely that lack of ovarian stimulation and of absorption of male products are important factors. To this last it has been objected that the semen of the human male is in the main non-absorbable; but this is untrue, since, under normal conditions, it is materially changed, and rendered fluid, by contact with the secretions of the female.

† "De Genitura," Fœsius, p. 231.

‡ Reveillé-Parise, "De la Vieleese," p. 415.

§ *Vide* Böttger.

9. Is not the corollary evolved from the evidence as a whole, proof that the chief end of existence, physiologically considered, is the imparting of Life by perpetuation of the species,—the fastigium of fecundity or reproductive power marking the height of development and the beginning of decay?

10. Finally, on careful review of the evidence, when freed from sensationalism, are there any grounds for the assumption, so oft reiterated, that the theory of M. Brown-Séquard is "unnatural," "impracticable," "unphysiological," and "impious?"

203 Grandy Avenue.

---

## *ARSENITE OF COPPER IN BOWEL COMPLAINTS.*

By L. Worsham, M.D., Evansville, Ind.

IN the July number of the Therapeutic Gazette I read Dr. Aulde's clinical notes on "Arsenite of Copper." While I was very sceptical, nevertheless I concluded to give the remedy a trial before rejecting it as useless.

I now have to report a few clinical observations as to its use. It is needless for me to say that the facts that I have recorded have dispelled my scepticism, and have made me a firm believer in the efficacy of arsenite of copper in bowel complaints.

Case I.—*August* 24.—J. W., aged 30; strong and healthy. He was taken suddenly in the night with a severe pain in his stomach and bowels, and frequent operations. As I had never done anything for him before, nor had I tested the efficacy of arsenite of copper, I gave him sulph. morph., gr. ¼. At noon of the same day the pain was less, but the frequency of the diarrhœic discharges unabated. A tablet of arsenite of copper, dissolved in six ounces of water, was given him, with directions to take a teaspoonful every ten minutes for the first hour, and every hour thereafter. Two days subsequently I saw him on the street, when he informed me that he was cured before the bottle was emptied.

Case II.—*August* 26.—G. S., aged 28; clerk in railroad office. He has had diarrhœa more or less since May 24. Has had treatment from physicians, besides taking various household remedies, without effect. Gave him a tablet of arsenite of copper, dissolved in six ounces, with specific directions how to take it. Several days afterwards he reported that he was all right. Twice since he has applied to me for one of those "white things," which, he says, is the only thing that does him any good.

Case III.—W. W., aged 7 months. On August 22 was taken with a high fever and violent purging. On the 23d I saw him for the first time, temperature 103.2°, pulse 150, and having fifteen or twenty evacuations in twenty-four hours, some containing mucus, others large and watery. Gave bismuth, tinc. opii camph., and fl. ext. coto bark.

*August* 24.—Not any improvement in his condition; gave him quinine.

*August* 25.—Operations very frequent, the mother couldn't say how many, as she had not counted them. They were not changed in character. Temperature, 103°. Gave a tablet of arsenite of copper, prepared as in the cases above reported. Told the mother to get a piece of paper, and keep a correct account of the operations that he may have in the next twenty-four hours.

*August* 26.—He has taken the medicine faithfully since yesterday. He has had twenty-two operations in twenty-four hours. (She counted the slightest stain on the diaper as one.) Some of them contained blood and mucus. His fever is less, and his general appearance is better. He has taken three grains of quinine in the last twenty-four hours.

*August* 27.—He has had twenty-two operations in the last twenty-four hours; not much change in the character of the stools. His temperature 101°, and he appears better. Gave him another tablet, prepared as before.

*August* 28.—He has had eighteen operations since my last visit. The mother said they were not changed in character. He appears brighter. Temperature, 99.6°. The same treatment continued.

*August* 29.—He looks very much better; no fever; still has diarrhœa, seventeen operations in twenty-four hours.

*September* 1.—In the last two days he had four operations; "signs of blood in two." He is hungry and cross. Arsenite of copper continued.

*September* 3.—Called at the house, and was informed that he was perfectly well, as his general appearance attested.

Case IV.—W. K., aged 3; German. He is well grown, and looks healthy; his abdomen is very prominent. His mother says that he has had diarrhœa ever since his birth. He always has seven or eight, and frequently ten or twelve operations a day. Dark color

when taking medicine, light when not. The evacuations are very copious and exceedingly offensive. Dieting has no influence in lessening the frequency or diminishing the quantity of the discharges. Gave him a tablet of arsenite of copper, gr. $\frac{1}{100}$, and directed his mother how to administer it.

*August* 27.—Mother said that he was not any better; that she gave him the medicine regularly for the last twenty-four hours, except when he was asleep.

*August* 28.—Mrs. K. said that Willie had only one operation last night, dark and more natural than it had been for two years. Gave her another tablet, and told her to continue the medicine.

*September* 1.—Mrs. K. said that her boy had been very much benefited since he commenced taking the tablets. He now has two or three operations a day, dark color, and consistent. He is not troubled at all at night with his bowels.

CASE V.—Mrs. O'H., pauper, aged 60.

*August* 27.—She has had diarrhœa since the 24th inst. Tongue heavily coated; pulse 80; temperature normal; no appetite; weak bowels, moving every fifteen or twenty minutes; tinc. opii, fl. ext. coto bark, and bismuth were given her without effect. Gave her a tablet dissolved in water, with explicit directions how to take it.

*August* 28.—She said that she was no better, had a great many operations in last twenty-four hours, that the "mouth-wash had not done her any good." When informed that she should have swallowed it, she asserted with considerable warmth that she had done so. Prepared another tablet for her; not to use as mouth-wash, but to swallow it.

*August* 29.—Found Mrs. O'H. out of bed, and in the kitchen attending to her household duties. She had taken nearly all of the medicine, and the last operation that she had was natural.

CASE VI.—W. D., infant, aged 10½ months; bottle-fed. He has suffered greatly for the last three months with the colic. His features were pinched and drawn. His parents have passed sleepless nights on account of screams. He was taken to the country for a month. He returned very much improved. On his return to the city he was taken with diarrhœa; despite laudanum, tinc. catechu, etc., he had daily three or more thin operations, containing mucus and curdled milk, with griping and colicky pains. Took arsenite of copper two days; pain disappeared; operations less frequent and more consistent. He is now eating well and growing rapidly.

CASE VII.—Mrs. H., German, aged 43. She was taken suddenly about 4 A.M. with a severe pain in her stomach, back, and legs, and desire to go to stool, when she had a very copious evacuation. I saw her at 3 P.M., and she had responded to the call of nature about twenty times since morning. She passed each time about a teaspoonful of mucus and blood. There was considerable tenesmus. A tablet of arsenite of copper was given her in six ounces of water, with directions how to take it. On my visit to her the next afternoon, she was up and at work. She said that she was entirely relieved of all pain and tenesmus after taking the medicine one hour. Her bowels had not moved but once after commenced taking it.

Cases III. and IV. are instructive, inasmuch that they show that one tablet will not always effect a cure, but a perseverance in the treatment will crown our efforts with success. My observations of these cases differ from Dr. Aulde in that I have used more than one tablet in the same case. This article has attained a greater length than I intended that it should. I felt that it was a duty that I owed Dr. Aulde and the profession to give my testimony of the favorable results that I have obtained from the use of arsenite of copper tablets.

---

## *REPORT OF THREE CASES OF REMARKABLY SLOW PULSE,*

TO WHICH IS APPENDED BRIEF ABSTRACTS OF NINETY-THREE CASES OF SLOW PULSE FOUND RECORDED IN MEDICAL JOURNALS IN THE LIBRARY OF THE SURGEON GENERAL'S OFFICE, WASHINGTON, D. C.*

BY D. W. PRENTISS, M.D.†

(Concluded from vol. v. p. 812.)

CASE LIV.—(*Lond. Lancet*, December 30, 1876, p. 919, C. Handfield Jones, M.B., F.R.S. Slow pulse, with seizures of epileptoid character.) Slow pulse; heart apparently sound, except to dynamic tests; attacks of total unconsciousness, lasting three or four hours; low temperature; effect of belladonna on the pulse.

* Read before the Association of American Physicians at Washington, D. C., September, 1889.

† Professor of Materia Medica and Therapeutics, Columbian University, Washington, D. C.

I. O., shopman; aged 62 years; pulse 33 to 39; good force; temperature at 2 P.M., 95.2°.

*October* 3.—Pulse arrested by pressure of 173 grams in right wrist.

*October* 5.—Pulse 28; temperature 98.4°; feels better; had taken iron, spirits of chloroform, and ½ grain of extract of belladonna three times a day.

*October* 9.—Medicine stopped and coffee ordered, one pint daily; this gave relief.

From September 30 to October 11 the temperature was subnormal, ranging from 95.2° to 98°. The pulse during same time from 33 to 44. Belladonna was given to lessen inhibitory influence. It had no effect on the pulse, but caused a rise in temperature of 3.2° in three days.

I. O. was readmitted November 24.

*October* 16.—Pulse 42; two days ago had a fit.

*October* 23.—Another fit.

*November* 1.—Pulse 33.

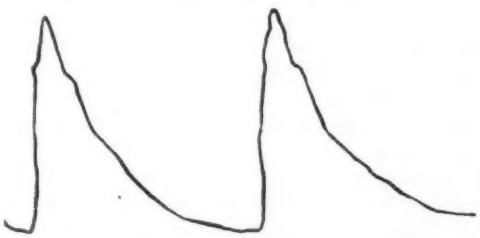
*Discussion on Cases LIV. and LV.*—Dr. Jones thought that both brain and heart were ill nourished, producing fatty degeneration, and this was a cause of slow pulse, or that the epilepsy caused arrest of the heart by irritation of the *vagus*.

Dr. Walshe remarks (third edition, p. 166) that if slow action is of cerebro-spinal origin the heart-beat is strong, and, if of cardiac origin, it is weak. Slow pulse is common in epilepsy.

Mr. Thornton considers syphilis a frequent cause of slow pulse.

Dr. Jones considered that in his cases the slow pulse was of double origin. The heart was not sound, but, had not a decided epileptic tendency existed, the peculiar seizures would not have occurred. Bromide of ammonium, with iron or phosphorus or cod-liver oil, would be the best drugs to employ in similar cases.

CASE LIV.—*C. Handfield Jones, S. O.*



October 4, 1876. Pulse 30; pressure 84 grammes.

CASE LV.—*C. Handfield Jones.*

October 25, 1871. Pressure 140.

*November* 24.—Pulse 36; temperature 96.8°; unconscious spells.

*December* 2.—Temperature 95.6°; urine normal.

*December* 4.—Pulse 38; temperature 96.8°; epileptic attacks at night (*petit mal*).

CASE LV.—(Second case reported by Dr. C. Handfield Jones, *Lond. Lancet*, December 30, 1876.) Slow pulse; attacks of epilepsy, perhaps also of syncope; heart-sounds weak; pulse of fair force.

*September* 19, 1876.—Pulse very peculiar, 36 per minute; every few seconds a distinct sound, followed by a weak one, and then a long pause; no abnormal heart-sounds.

*September* 21.—Pulse 30.

*September* 28.—Pulse 28.

*October* 5.—Pulse 28.

*October* 13.—Pulse 23.

CASE LVI.—(*Lond. Practitioner*, vol. xvi., 1876, p. 186, R. Somerville, M.D.)—A professional man, aged 37 years; temperate; not a smoker; good general health; business worry; irritation of the stomach; imprudently ate salt fish for supper; slept badly, and towards morning vomited several times; tongue clean; feeling of oppression at the epigastrium; pulse 25, otherwise normal.

First day, continued unchanged.

Second day, pulse much quicker, irregular; heart's action tumultuous; no organic disease; large doses of bromide of potassium and belladonna.

Third day, the same; præcordial oppression less.

After eighth day improvement continued to recovery.

Peculiar symptoms explained as due to irritation of the pneumogastric nerve from the stomach.

Czermak, 1865, is quoted. It is shown that irritation of the pneumogastric slows the heart in man, as it has long been known to do in the lower animals. In Czermak's own person, by pressure on right side of neck, at the inner side of the sterno-mastoid muscle, squeezing the nerve between the fingers and a small hard lump, he could reduce his pulse at will one-half, attended with a feeling of oppression and constriction about the sternal region.

He divides the nerve into three sections as to its influence on the heart,—

1. The roots in the medulla oblongata.
2. The trunk.
3. The terminal branches.

1. Change in the medulla is the most frequent cause of change in pulse-rate.

2. Trunk is rarely affected; pressure as in Czermak's case or by tumors.

3. The terminal branches are more frequently affected by poisons, as nicotine or lead, which also act on the medulla.

In the case under consideration there was nothing to indicate disease of the medulla or of the nerve-trunks. The trouble came from affection of the terminal branches through irritation of the stomach, or possibly there may have been a subtle poison in the salt fish.

Meyer and Pribram (*Wien. Akad. Sitzungsber.*, July, 1872) found that punching the stomach would cause slow pulse, irritation being conveyed from the stomach to the medulla oblongata and back to the heart.

Supposing it to be reflex, the bromides would be indicated.

Case LVII.—(*Pittsburgh Med. Review*, 1886, p. 245, W. C. Shaw, A.M., M.D.)

*May*, 1887.—John Murphy, aged 19 years. In usual health until May 19, 1887, when he began to feel badly.

*May* 21.—After an attack of cholera morbus, he fainted; pulse 25 to 27; ammonia to nostrils; head low. Same evening, pulse 21; respiration 36. For two hours pulse remained from 18 to 21. At 11 P.M., pulse 40.

*May* 23.—Pulse 45; recovered.

Case LVIII.—(*Bull. Acad. Royal de Méd.*, 1887, p. 737. Case of permanent retardation of the pulse, with attacks of syncope and epileptiform seizures. M. le Dr. Lebrun, of Namur.) Pulse 18 to 36 per minute; died in epileptiform attack; no autopsy.

Quotes Charcot, referring to three cases in which the cause of the slow pulse was ascribed to the nerve-centres (*Leçons sur les Maladies du Systeme Nerveaux*).

Case LIX.—(*N. Y. Med. Record*, November 26, 1888, Dr. Squire.) Large, fine-looking man, aged 80 years; pulse ordinarily 28 per minute. Ten years ago had heart-trouble, the nature of which was not known. Since that time pulse has ranged between 24 and 32 per minute. The heart is hypertrophied and the arteries hard; no sign of valvular lesion; no intermediate beat. He is in excellent health, with uncommon vigor for his age, and, except that he is short-breathed when he walks up-hill or makes other special exertion, shows no sign of failure of the circulatory apparatus.

Case LX.—(*Lond. Med. Gaz.*, vol. xx., 1837, p. 254. Remarkable slowness of pulse in a horse. Reported by Mr. Pope in the *Veterinarian.*)

*October* 17, 1835.—Mr. Pope was called to see horse belonging to Mr. Ruxton Hill, of Fiddes, Feveran. Pulse was found to be only 10 per minute, with a strong, bounding rattle, which made the whole chest shake, so that it could be seen at a distance. The heart at times ceased beating and the horse fell down. The veterinary not knowing the nature of the disease, the horse was bled; given laxatives every second day; a seton inserted behind each ear; a rowel in the chest; and this treatment continued for a fortnight, when he gradually fell off his feed. In consequence of this the laxatives were stopped, and the pulse rose to 25. As, however, the horse was growing worse, and continued to fall down, it was decided, in consultation with other veterinarians, that the case was hopeless, and he was killed.

*Autopsy.*—The disease proved to be dropsy of the spine in the situation of the cervical vertebræ. On opening the spinal canal at the first and second vertebræ a considerable quantity of water flowed from the neck, evidently from the spinal cavity. The brain and all the internal organs appeared quite healthy.

Case LXI.—Mr. E., carver and gilder; aged 71 years; heavy drinker for some years. First seen twelve months previous, when his pulse was 40, regular and full.

*November* 24.—In full possession of all his faculties and in good spirits; pulse 36; temperature 96°; respiration normal. He is rather lethargic, and spends most of his time

in bed (John Wheeler, M.D, Ch.M., Bayswater, *Brit. Med. Journ.*, vol. ii., 1879, p. 886).

Case LXII.—Male, aged 68 years. For past four years, while in the best of health, pulse is only 26 per minute. There is hypertrophy of the heart, amounting to "contaurinism." There is occasionally a slight mitral musical murmur, and albumen has been found in his urine on two or three occasions. He is subject to attacks of syncope, and has for months had some swelling about the ankles. The writer (Dr. Norris) also mentions that he has frequently had pulses varying from 30 to 40 per minute in cases of typhoid fever, when the temperatures were typical of typhoid (J. Patterson Norris, M.D., Dalbeattie, Scotland, *Brit. Med. Journ.*, vol. ii., 1879, p. 886).

Case LXIII.—Male; coal merchant; aged 96 years; suffering from slight bronchial catarrh; has had seventeen children, the eldest still living at 75 years. Pulse on 24th and 29th, otherwise normal, was 36 per minute; intellect clear; sight and hearing good. Syncope threatens if he assumes for long the upright position. The writer would be glad to hear if such a low pulse is rare, as he has never met with a similar case (J. Black Noble, M.R.C.S., Eng., Trinity Square Borough, *Brit. Med. Journ.*, vol. ii., 1879, p. 814).

Case LXIV.—Mr. Noble, in reporting a case of slow pulse (36) in a gentleman 96 years of age, asks if such is rare. An old woman here recently passed away at the age of 83 years, whose normal pulse, when in perfect health, some months before her death, was 25 per minute. Mr. Garraway also mentions a case of rapid pulse in a young lady with consumption,—180 per minute,—which condition has not varied for months (Edward Garraway, Faversham, *Brit. Med. Journ.*, vol. ii., 1879, p. 938).

Case LXV.—Case of parish minister, Ayrshire, whose pulse in 1875 was 32, and on various other occasions only 36. Pulse has always been slow; both radials alike. The retardation, as far as could be determined, was shared in equally by all the elements of the cardiac revolution. If anything, there was a slight comparative prolongation of the "pause." The sounds were clear, deliberate, and prolonged. When the pulse was counted at 32 there was a condition of general nervous prostration; at other times had ordinary health. The patient was ordinarily vivacious, and not by any means of a morose habit (R. Park, Glasgow, *Brit. Med. Journ.*, vol. ii., 1879, p. 938).

Case LXVI.—Gentleman, aged 38 years; constipated habit and torpid liver; pulse 40, rather weak; heart-sounds somewhat "muffled," but not remarkably so; no valvular disease; no tendency to syncope; no breathlessness on exertion, nor much inconvenience from cold extremities; on subsequent occasions pulse varied from 40 to 60, but when 60 was irregular. A brother was found dead in bed, and some near relatives were of the hemorrhagic diathesis (Jos. Quirke, M.R.C.P.E., etc., Birmingham, *Brit. Med. Journ.*, vol. ii., 1879, p. 938).

Case LXVII.—Gentleman, aged 67 years; attacks of faintness and dyspepsia, also symptoms of cerebral softening; pulse 32, regular, soft, and moderately full; at subsequent visits ranged from 30 to 36, never exceeding the latter; a year later, on three occasions, it was 28. Died suddenly while sitting at the table (Jas. Crocker, M.R.C.S.E., L.S.A., Bingley, *Brit. Med. Journ.*, vol. ii., 1879, p. 938).

Case LXVIII.—Woman, aged 69 years; faintness, dizziness, and general languor; pulse from 30 to 36; its usual rate was 32. She is still living and in tolerable health, except occasional faintness (*Idem*).

Case LXIX.—*May* 13, 1879.—Mr. ——, aged 71 years; shortness of breath, and unable to go about much; action of heart very irregular; pulse weak and slow, 28 per minute; for past six months has ranged from 28 to 30 per minute; well in every other respect. Cautioned not to leave home much, or stoop much, as in working in garden, to smoke very little, and, as a stimulant, whiskey in moderation (W. A. Wannan, L.R.C.P. and S.E., Arbroath, N. B., *Brit. Med. Journ.*, vol. ii., 1879, p. 1020).

R. Gossett Brown says: "In many thousands of cases, both in hospital and in private practice, I have twice seen cases of slow pulse."

Case LXX.—Clergyman, aged 85 years; for six or eight years never knew his pulse to exceed 32; suffered from concentric hypertrophy. One Sunday had an interview with him. At three o'clock the following morning was summoned, and found him dead in bed.

Case LXXI.—Gentleman, aged 70 years. Autumn of 1872 was called to see him. To use his own expression, "Had never had an ache or a pain in his life." Pulse 110; temperature 102°; slight friction sound next day; pulse 124; temperature 102°; three days later, pulse 114, firm, and regular. As

syncope threatened if he assumed the erect posture, he was kept recumbent. For months the pulse did not exceed 17.

*Treatment.*—Moderate doses of iodide of ammonium and iodide of iron, with sustenance every hour or two, night and day.

At length the pulse reached 19.

The medicinal agents employed were adopted under the impression that during the early days some deposit had taken place on the membranous covering of the aorta.

At length the pulse rose to 25, then to 30, and at length to 42, at which time he was allowed to take gentle exercise in charge of an attendant, who always goes prepared with stimulants. He is still alive (R. Gossett Brown, M.R.C.P., *Brit. Med. Journ.*, vol. ii., 1879, p. 1020).

CASE LXXII.—*December* 3, 1879.—Woman, aged 65 years. Ovariotomy, tumor weighing forty pounds removed. Previous to operation pulse was 46. Took chloroform well, and at end of operation pulse was 36. Temperature did not exceed 99.8°, and now is normal. Heart-sounds quite healthy, and beat very regular. Patient is a little woman, rather spare, and carries her threescore and five years very well (Geo. Granville Bantock, M.D., *Brit. Med. Journ.*, vol. ii., 1879, p. 1020).

CASE LXXIII.—Mr. W., aged 70 years; temperate; always in good health, excepting fits; slight fit twenty years ago; swimming in the head, coming on suddenly; coldness of extremities. For last eight years fits more frequent, coming on without apparent cause.

*July* 29.—After attack of indigestion had a fit; pulse 22, full, and firm; no pain nor uneasiness about head. A purgative and an alkaline mixture were ordered.

*August* 2.—Pulse 17; had many fits during the day; no heart-disease could be detected.

*Description of "Fits."*—If slight only, face became pallid, respiration rather labored and quicker than natural; no pulse, but directly the heart acted the pallor rapidly gave way to a blush, and all was as before.

If severe, the pallor increased, the expression became ghastly, the eyes turned up; involuntary twitchings; respiration quick and labored, with the alæ of the nose violently drawn in at each inspiration, producing a peculiar noise; surface cold; perfect loss of sensation, volition, etc., and sometimes involuntary discharge of fæces and urine. The heart was not acting, and I observed, for more than half a minute, when no stroke whatever could be detected.

If a feeble action of the heart only took place, such as could scarcely be felt at the wrist, the symptoms would continue; but directly a decided contraction occurred the face would immediately change from pallor to redness, then a suspension to the breathing, in which the hand would be raised to the throat; an apparent state of strangulation existed for the moment; sensibility immediately returned. The pulse then beat steadily for five beats, at the rate of 60 in a minute, and he would always, without exception, conceive that he had been asleep.

*August* 3.—4 P.M., pulse 17, irregular, and intermittent; 9 P.M., pulse 16.

*August* 4.—Expired in fit.

*Autopsy.*—Brain congested, but otherwise healthy; cartilages of ribs completely ossified; right pleura healthy; left pleura adherent; no liquid in pleural cavities; pericardium healthy; aorta dilated. Heart rather large; cavities and valves healthy, except a spot of ossific matter at the base of one of the mitral valves, which in no way interfered with its function. Coronary arteries: some yellowish spots were observed between the middle and inner coats, and in left coronary artery was a very small spot of ossific matter. In the interior of the aorta were very many yellowish-white spots, in some places forming patches. In one spot, size of a sixpence, was a softened and ulcerated surface; in another, complete ossification. At bifurcation into iliacs, complete ossification, not, however, including the whole circumference of the vessels. The internal coat was destroyed on the surface of this ossification, so that it projected into the cavity of the artery. The aorta was very little diseased at its upper portion, but this increased as the vessel lengthened. The branches of the left internal iliac were completely ossified; the omentum largely loaded with fat. Intestines healthy, but mesenteric vessels seen most beautifully encircling them. "Nutmeg" liver; openings of hepatic veins unusually large. Kidneys contained cysts. Other organs not described presented nothing unusual.

In the discussion of this case, Mr. Gibson is clearly of the opinion that the fits were a result of the stoppage of the heart's action, and not the cause. He considers the disease of the aorta, as shown in the autopsy, to have been the cause of the slow pulse, and proceeds to discuss the question at considerable length (John R. Gibson, Esq., *Lond. Med. Gazette*, vol. i., 1838 and 1839, pp. 123 and 155).

CASE LXXIV.—(*Dublin Qr. Jour. Med. Sc.*, vol. vii., 1849, p. 501, Chas. Halpin, M.D.) Case of slow action of the heart in fever. Dr. Halpin and Dr. Mease, in joint report on epidemic fever of 1847, stated that they had met with nine cases in which the heart's action ranged between 40 and 50 beats in the minute, yet all the cases terminated favorably (*Dub. Med. Journ.*, No. 13, February, 1849, p. 116).

CASE LXXV.—Ellen G., aged 18 years.

*December* 2, 1848.—Pulse 96; skin hot; tongue dry and clean; considerable thirst; no headache. Fever ran its course mildly, and terminated on eleventh day.

*December* 14.—Relapsed; pulse 84.

*December* 15.—Pulse 70.

Pulse continued to decline steadily until the 18th, when it was 42.

*December* 18.—Pulse 42.

*December* 19.—Pulse 45.

*December* 20.—Pulse 46.

*December* 21.—Pulse 44.

*December* 22.—Pulse 44.

*December* 23.—Pulse 40.

*December* 24.—Pulse 40.

*December* 25.—Pulse 40.

*December* 26.—Pulse 42.

*December* 27.—Pulse 52.

*December* 28, 29, and 30.—Pulse 80.

Discharged January 6; pulse 68.

CASE LXXVI.—(Two cases of slow action of the heart in fever, Jas. Y. Carithers, Hendricksville, Ala.)

*October* 1, 1853.—Mr. S., aged 20 years; febrile symptoms; pulse 90; light chill; emetic of ipecac, blue pill, quinine.

*October* 4.—Pulse 75.

*October* 10.—Pulse 94.

*October* 12.—Pulse 70.

*October* 17.—Pulse 42.

*October* 18.—Pulse 40.

*October* 20.—Pulse 40.

*October* 23.—Pulse 50.

*October* 26.—Pulse 84. (Case of intermittent or remittent fever.) (*So. Med. and Surg. Journ.*, 1854, N. S. 10, p. 462).

CASE LXXVII.—(Slow action of the heart in fever.)—Mr. A., aged 34 years; intermittent or remittent fever.

*November* 10, 1853.—Pulse 86.

*November* 22.—Pulse 74.

*November* 23.—Pulse 60.

*November* 24.—Pulse 52.

*November* 25.—Pulse 46.

*November* 26.—Pulse 46.

*November* 28.—Pulse 84.

*November* 29.—Pulse 68.

*November* 30.—Pulse 56.

*December* 2.—Pulse 56.

*December* 4.—Pulse 60; well (*So. Med. and Surg. Journ*, 1854, N. S. 10, p. 462).

CASE LXXVIII.—(Very slow pulse, connected, probably, with disturbance of the digestive functions.) Farmer, aged 53 years. For twenty-five years has suffered from costiveness, but general health good. For eight years dyspeptic symptoms; weak; sometimes giddy; would fall unconscious. Pulse 20 per minute; at one time as low as 12; not unfrequently would rise to 60. Pulse full and strong; no pain around heart; no palpitation; slight systolic souffle; heart-sounds muffled and distant; hands and feet cold. He is able to do light work. He is pale when he has his worst attacks (Dr. Jackson, *Bost. Med. and Surg. Journ.*, N. S., vol. iii., 1869, p. 376).

CASE LXXIX.—Young man; exceedingly sick with acute dysentery; pulse 40, which it never exceeded; recovered. Several months after met him returning from his work (carpenter) in perfect health, and took his pulse, to find it 40 (Dr. C. K. Kelly, *N. Y. Med. Record*, vol. xvii., 1880, p. 164).

A. T. Keyt, M.D., Cincinnati (*N. Y. Med. Record*, vol. xvii., 1880, p. 69) refers to previous observations as demonstrating exaggerated delay of pulse in mitral insufficiency, aortic obstruction from heavy aortic valves, and aortic aneurism (*Cincinnati Lancet-Clinic*, March 22 and April 19, 1879; *N. Y. Med. Record*, November 29, 1879).

CASE LXXX.—Chris. H., aged 31 years; "enormous delay of the pulse;" systolic murmur, accentuated both at apex and second left interspace; second sound clear and loud. Sphygmograms were taken September 6, 1879, and are reproduced in the report, showing tracing from the heart, the subclavian arteries, and the radials. Patient died November 16, 1879.

*Autopsy.*—Heart weighed fifteen ounces, and was fatty. Just above the aortic valves were two aneurismal pouches, one projecting forward and to the right, and the other forward and to the left. The first of these, looking like dilatation of the *sinus* of *valsalva*, contained no clots; the other was filled with laminated fibrin. The latter was the size of a small apple, and presented a distinct ring, about half the diameter of the pouch. It pushed its way in various directions, and pressed upon the pulmonary artery in such a manner as to occlude that vessel entirely. Both dilatations had very thin walls. The

mitral and aortic valves were much thickened, but were competent by the hydrostatic test. The mitral valve was filled with nodular vegetations and was incompetent. Right auricle distended, with soft clot and fluid. Tricuspid and pulmonary valves presented no disease. Pericardium thickened, and contained twenty-one ounces of fluid. Aorta ætheromatous.

(The enormous delay of pulse referred to in this case is not a slowing of the pulse, but delay in the time occupied by the pulse-wave in reaching the radial artery. This is given as $\frac{40}{100}$ of a second to reach the right subclavian and $\frac{47}{100}$ of a second to reach the radial. This is considered as enormous, when it is remembered that the normal delay to the subclavian should be $\frac{1}{18}$ of a second.—D. W. P.)

Case LXXXI.—M. V., aged 70 years; robust constitution; pains in limbs and knees; rheumatism; attack of convulsive movements, but not feeling ill; pulse 24; pulse previously had been normal. Spasms continued to recur with increasing violence until after ten days they ceased, and pulse returned to 70. The pulsations of the heart on March 23 were 24, and continued to diminish in frequency until for several hours before the change; but 3 pulsations could be distinguished to the minute. At date of report, six weeks later, he was much prostrated, but conversed and ate, and seemed improving.

Case LXXXII.—(*Gaz. des Hôpitaux*, Paris, 1876, vol. xlix. p. 788, service of M. Tillaux.).—Case of old person, with pulse of 20 per minute; attacks of syncope; emphysema of lungs; displacement of apex of the heart and *bruit de souffle*, which is prolonged during the whole of the systole.

Case LXXXIII.—Lady, aged 69 years; suddenly expired. Six weeks before had had apoplectic attack, from which she was recovering. Her usual pulse was 28 per minute, but on the day of her death had risen to 38, which excited apprehension in the mind of her medical attendant, who saw her a few hours before death. She had had four apoplectic seizures in twelve years, but during the interval had frequent fainting spells. Cupping over the nucha gave relief. Attacks of indigestion aggravated them. She was very sensitive to cold (C. Basham, M.D., Truro, *Provincial Med. and Surg. Journ.*, 1842, p. 68).

Case LXXXIV.—Man, aged 52; a pedler; with pulse of 22 per minute; change in position did not affect pulse; heart-sounds clear and normal; never had any serious illness; saw him in two or three prolonged fainting fits; continued this way about eighteen months. One morning fell dead from his chair, after some slight excitement. He was shown to several medical men, who had never seen so remarkably slow a pulse (J. S. Gunning, Enniskillen, Ireland, *Brit. Med. Journ.*, vol. i., 1880, p. 113).

Case LXXXV.—Old man, aged 79 years. Pulse for nine months has been 22 per minute, full, fairly strong, and regular, but accompanied with great præcordial uneasiness and tendency to syncope. Attributed his heart-troubles to hypodermic use of morphine. Eighteen months before suffered a compound fracture of fibula and tibia, for pain from which the morphine had been given. After hypodermic injection had a "horrible sensation" at the heart, so that he preferred to endure the neuralgia rather than take it. Later on began to suffer convulsive fits. One day while holding the finger on the pulse he had a fit. The pulse suddenly stopped, and a violent spasm seemed to radiate from the heart to every part of the body, which was convulsed from head to foot, the eyes opening and shutting every second. The heart did not beat for thirty-five seconds; then for twenty-five seconds. It beat *four times per minute for about four minutes*, when consciousness, which ceased when the pulse stopped, returned, as the pulse went up to 22. The fits increased in frequency until he died exhausted (W. Henry Day, L.R.C.P., Pentonville, December 30, 1879, *Brit. Med. Journ.*, vol. i., 1880, p. 113).

Case LXXXVI.—Gentleman, aged 74 years; fell down, and was insensible for a few minutes; soon after pulse was 28. From June 21, 1879, to July 3, 1879, pulse was from 22 to 28. When pulse became 22, which it did many times a day, he became insensible, and he had a fit resembling epilepsy. In several of these attacks it was thought he must die. He became convulsed and livid. They usually lasted about one minute, but sometimes as long as three or four minutes. For several days the seizures came every ten minutes. After July 3 they gradually passed off. Pulse 28, full, and regular.

*August* 8.—Another attack of syncope.

From August 8 to August 13 pulse between 15 and 56; gradually improved, and now is well, with pulse of 60.

*Treatment.*—Kept in bed; stimulants, ni-

trite of amyl, ammonia, digitalis, but could see no effect from the treatment.

It is interesting to note that of eleven cases recently recorded in the journal, the age on the average was 72, and that eight were males (W. J. Tyson, M.B., F.R.C.S., Folkstone, December 30, 1879, *Brit. Med. Journ*, vol. i., 1880, p. 113).

CASE LXXXVII.—Gentleman, aged 70 years. In good health up to sixty years of age. He had been thirty-eight years in the army. Six years ago had apoplectic attack, followed by palpitation, uneasiness in region of heart, and a sensation as of something rushing to the top of the head. Pulse quicker than usual and intermittent. Two years later became suddenly faint on making exertion, and fell down insensible. After recovering consciousness, a feeling of faintness and languor was still felt. Pulse 25 to 30 per minute, which continued for four years; on one occasion down to 18, and, after unusual exertion, it would sometimes rise to 34. During three years was liable to syncope, but for last year had been free from them and in fairly good health. Action of heart regular; pulsation strong; no double beat; no evidence of valvular disease; respiration easy and natural; no sign of cerebral disease. First saw him in 1838. In 1840 pulse 26; heart still nearly normal; no valvular disease; left side somewhat hypertrophied and dilated; had always been temperate in his habits. He continued in his usual health until seven years after the remarkable slowness of the pulse showed itself, when he died suddenly in an attack of syncope; no autopsy (T. B. Peacock, *Provincial Med. and. Surg Journ.*, Lond., 1842, p. 68).

Dr. Austin Flint (*Amer. Pract.*, vol. xiii., 1876, p. 1) refers to the following conditions as a cause of irregular and retarded action of the heart: Derangements of digestion, anæmia, sexual excesses, the immoderate use of tobacco, and prolonged mental anxiety. To these is to be added an intrinsic tendency of some persons to functional disorder of the organ.

Persistently rapid pulse also is referred to as an accompaniment of certain functional disorders, and also Grave's or Basedow's disease is referred. (The present writer once saw a case of Basedow's disease in which the pulse was between 200 and 300 constantly for several days before death, and another case of irritable bladder in a female with a pulse of from 140 to 180 for several months, with recovery.—D. W. P.)

CASE LXXXVIII.—Female, aged 35 years; general health good, excepting some neuropathic ailments; heart normal; pulse previously of usual frequency. After a choking attack in eating, causing violent and persistent coughing, with a sense of suffocation, she became livid, and was greatly prostrated; kept her bed for several days, complaining of faintness whenever raised, and suffering from irritability of the stomach; pulse 40 per minute; gradually returned to normal in two or three weeks, and she recovered. Died of typhoid fever several years after, and at autopsy heart was found normal (Dr. A. Flint, *Am. Pract.*, vol. xiii., 1876, p. 5).

CASE LXXXIX.—W. H. B., aged 38 years; convalescing from an attack of acute pneumonia of right lung; was taken with sudden sense of great prostration, coming on about noon; a feeling as if death were imminent from stoppage of the heart; was in state of great alarm; cold perspiration; pulse 40, intermittent; no cardiac murmur nor increase of cardiac dulness. For six weeks these attacks recurred. Lowest pulse noted was 35; urine normal; temperature normal. Made a tedious but finally complete recovery (Dr. A. Flint, *Amer. Pract.*, vol. xiii., 1876, p. 6).

CASE XC.—Mr. B., aged 53 years; intermittent fever for a year previous. After taking cold, pulse 25 per minute, rhythm, fulness, and force good; respiration 24; heart-sounds normal; recumbent posture and stimulants ordered.

First day, pulse 25; respiration 24; temperature, 97°.

Second day, pulse 32; respiration 15.

Third day, pulse 36.

Fourth day, pulse 42.

Fifth day, pulse 60.

Sixth day, pulse 80. (Dr. Foree, *Amer. Pract.*, June, 1874; also *Amer. Pract.*, vol. xiii., 1876, p. 7.)

CASE XCI.—Mr. S., aged 46 years; subject to sick headache, otherwise robust. Seen in consultation with Dr. J. H. Vandy, of Jersey City.

*May*, 1875.—Attack supposed to be malaria, with sick headache. Latter continuous and more severe at night; at times with delirium; most of the time savagely cross; pain in head relieved by morphine; pulse in health 70 to 75 per minute. Ten days after illness commenced pulse was found to be 40 per minute, once 38, increasing towards evening to 46 or 48. In three weeks was out of doors, though having headache for several weeks.

Quinine was given throughout the disease. The pulse gradually became more frequent, and finally returned to 74 per minute (Dr. Austin Flint, *Amer. Pract*, vol. xiii., 1876, p. 8).

Case XCII.—H. G., aged 43 years; seen in consultation with Professors Willard Parker and A. Jacobi. Had had a previous illness of a similar character. Fairly good general health.

*January*, 1874.—Weakness and palpitation on going up-stairs; pulse 40 per minute; no abnormal cardiac sound; lungs, liver, spleen, and urine show no sign of disease. He remained much the same until the following April, when he had attacks described like a cloud passing over him. These occurred generally in erect posture, and especially when walking.

In April pulse from 30 to 34 per minute. From May, 1874, to May, 1875, health good; pulse from 30 to 40 per minute.

*May*, 1875.—Had epileptiform convulsions; pulse accelerated during seizures, but in intervals from 24 to 36.

After May up to August no convulsions, but pulse 26 and irregular.

During August three epileptiform seizures, more severe, one lasting fifteen minutes. During seizures he became cyanotic, movements and appearance as though asphyxiated; pulse during seizure 40.

In September, Dr. Knapp examined retinæ and pronounced them normal.

Improved; attacks lighter; pulse rose from 26 to 36 per minute, and in November 1875, was attending to business.

*Treatment.*—Stimulants, bromide of potassium, and electricity were used, but did no good (A. Flint, *Amer. Pract.*, vol. xiii., 1876, p. 9).

Case XCIII.—Mr. S., aged 52 years. Previous health good; within three years had three attacks of faintness, and fell unconscious; no headache, paralysis, or other brain symptoms.

*April*, 1852.—After running after an omnibus had dyspnœa and palpitation, which increased, and was followed by congestion of the lungs and bronchitis. Pulse, which in health, had been 60, now became 26 to the minute. For a year he continued with varying attacks and comparatively good health, pulse ranging from 26 to 36 per minute.

Died suddenly (July 28) in fit of dyspnœa, followed by expectoration of mouthfuls of blood. A large tumor appeared in the abdomen some weeks before his death; no autopsy (*Assoc. Med. Journ.*, London, 1853, p. 877).

Dr. James Russell (*Med. Times and Gaz.*, vol. ii., 1877, p. 58) remarks on unusual slowness of pulse founded on a case illustrating that form of disease, discusses the subject, and gives an analysis of thirty-eight cases noted. The importance of heart-disease, especially degeneration of the heart-walls, as a cause, is dwelt upon.

Dr. Stokes (*Dublin Quarterly Journal*, vol. ii.) refers to "typhoid softening of the heart as coexisting with a pulse of from 30 to 40 per minute." A like degree of slowness has been noticed by other observers, especially by Dr. Murchison, as likely to occur in that form of fever.

"On the whole," says Dr. Russell, "the conclusion respecting these cases of degeneration of the tissues of heart must be that, although the degeneration does not offer of itself a full and complete explanation of the reduced frequency of the pulse met with in certain of the cases, yet it constitutes a very important indication of the presence in the heart itself of some influence directly interfering with the irritability of its fibre; thus these cases have much value in reference to the others already mentioned, in which evidence of other forms of heart-disease was presented by the patient."

Case XCIV.—Patient presented embarrassed breathing, and was supposed to have water in the pericardium. Pulse usually 29, but on some days was as low as 14. In three months all the heart-symptoms disappeared and pulse regained its normal standard (Dr. James Russell, *Med. Times and Gaz.*, vol. ii., London, 1877, p. 60).

Case XCV.—Man, aged 38 years, admitted to Birmingham General Hospital April 13, 1876. Slow pulse for seven or eight years, but no suffering in consequence.

*December*, 1875.—Began to have faint attacks, at first two or three a day, but increased in frequency until there were as many as sixty or seventy a day. The faints were attended with momentary insensibility, followed by immediate return to consciousness. In some of the fits the eyes were staring and face flushed; in others the face is unchanged, the patient appearing as though asleep. The attacks took place whether recumbent or erect, and were preceded by a feeling of numbness. Attacks of pain across the epigastrium, irrespective of food, sometimes relieved by eating. This pain, when occurring under the right ribs, always preluded a

faint. At other times, before a fit, he experienced an indescribable feeling at the epigastrium, as though vomiting would relieve him. The pulse during eighteen months varied little from 32; once it was 19; twice 24, and twice 26; nine times only did it exceed 34; once rose to 43. Temperature on admission 98° to 98.4° in axilla. Later, temperature in mouth varied between 97.4° and 98°. Fundus oculi normal; pupils below average size, but freely dilatable under atropine.

For the rest, health fairly good, but markedly indisposed to exertion, and much wanting in physical and mental energy.

All treatment fruitless. Digitalis not only failed, but produced marked uneasiness; belladonna failed, bromides likewise; electricity had no effect.

CASE XCVI.—Case of Mr. Hodgson, who suffered from cardiac degeneration, had a pulse of 40, and referred the diminution in frequency to overwork.

Mr. Crompton, who refers to the above case, also mentioned a patient of his own who had a notably slow pulse for many years without affecting his health. This latter gentleman's son also had a slow pulse (*Med. Times and Gaz.*, vol. ii., 1877, p. 230).

CASE XCVII.—Dr. Archibald Hewan's own case. Twenty years before had studied greatly, pulse then 72 per minute; afterwards was 55, and eight years ago was 24; had never had a fit nor fainted, and could bear cold well; had rheumatic fever eight years before, when pulse did not rise above 32. Eight weeks ago had gout and rheumatic pains, when pulse rose to 64 and 68, after which it fell slowly to 32 and 28, where it remains (*Mo. Abst. Med. Sc.*, Philadelphia, 1874–75, p. 400).

The following additional references upon the subject of slow pulse are appended. The writer regrets that, for want of time, it has been impossible for him to examine them for incorporation in the present paper, but contents himself with the reflection that he has already reached the limit of endurance to the reader.

*L'Union Méd.*, Paris, 1870, pp. 658, 659, L. Gros, "Du Ralentissement du Pouls les Britons."

*London Lancet*, vol. ii., 1872, pp. 913, 914, J. B. Yeo, "Production of a Remarkable Endocardial Murmur accompanied by Unusual Slowness of the Pulse."

CASE XCIV.—*Dr. James Russell's Case.*

March 3, 1877. Pulse 36.

CASE XCV.—*Dr. James Russell's Case.*

April 14, 1876. Pulse 34.

*Dublin Quart. Med. Jour.*, vol. ii., 1846, pp. 73–85, W. Stokes.

*Gaz. d. Osp. Milano*, vol. vii., 1846, pp. 579–587, "Del Polso Raro e Monocroto," M. Alivia.

*New York Medical Record*, vol. xx., 1881, p. 670, "Case of Slow Pulse," J. Baranowitz.

*New York Medical Record*, vol. xx., 1881, pp. 533–535, T. A. McBride, "The Slow Pulse and Distances in the Rhythm of the Pulse."

*Peoria Medical Monthly*, vol. ii., 1881–82, p. 255, J. P. Walker, "Slow Pulse."

*Berl. Klin. Wochenschr.*, vol. xxiv., 1887, pp. 72–74, "Pulsus Rarissimus," A. Frey.

*Bull. Acad. Roy. de Méd. de Belg.*, Brux., 1887, 4s i., pp. 73–82, Rap de Hambarsin 21, Lebrun, "Un Cas de Ralentissement Permanent du Pouls avec Attaques Syncopales et Epileptiformes."

*Mrstr. Mag. f. Laegendensh.*, Christiania, 1887, 4 ii., pp. 636–645, Holm, "Pulsus Rarus."

*Mem. Soc. d. Sc. Méd. de Lyon*, vol. xvii., 1877–78, 2e pt., pp. 98–100, J. Rendre, "Ralentissement Normal du Pouls."

*Medycyna Warszawa*, vol. x., 1882, p. 842, J. Polak, "Case of Great Intervals of Pulsation."

*Mem. et Comp.-Rend. Soc. d. Sci. de Lyon*, vol. xxi., 1881–82, pt. 2, pp. 84–87, "Cas de Ralentissement du Pouls" (Laure).

*Bull. Soc. de Méd. d'Angers*, 1884, N. S., vol. xii., pp. 34–38, Guérétin.

*Gaz. Méd. de Picardie*, Amiens, 1885, vol. iii., p. 54, A. Roux, "Deux Cas de Ralentissement du Pouls."

*Deutsch. Archiv f. Klin. Med.*, Leipsic, 1888, vol. xlii., pp. 574–614, F. Grob, "Ueber Bradycardie."

*Lyon Méd.*, vol. xliii., 1883, pp. 307–316, "Contribution à l'Étude du Ralentissement du Pouls," Chappet.

*L'Union Méd.*, Paris, 1884, 3 s., vol. xxxviii., pp. 433–441, "Le Pouls lent bulbaire," R. Lonquet.

*Gazz. Med. ilal.; prov. venete*, Padova, 1882, vol. xxv., pp. 101–103, "Sul Polso Lento," U. Bassi.

"Ueber die Bedeutung des Pulsus Tardus," L. Traube, in his "Ges. Beitr. z. Path. u. Phys.," Berlin, vol. iii., 240.

*Med.-Chirurg. Trans.*, London, 1841, vol. xxiv., pp. 76–82, "Case of Slow Pulse with Fainting Fits," etc., T. H. Holbertson.

*So. Jour. Med. and Phar.*, Charleston, 1847, vol. ii., p. 34, "Case of Pseudo-Apoplexy with Remarkably Slow Pulse."

"Ueber Abnorme Verlangsamung der Pulsfrequenz," 8vo, Berlin, 1875, W. Hartog.

*Jour. d. Connaiss. Méd. prat.*, etc., Paris, 1875, vol. xlii., pp. 177–180, "Ralentissement considérable du Pouls," etc., Langlebert.

*Gaz. Méd. de Paris*, vol. iv., 1875, 4e sér., pp. 292, 293, Cornil, "Ralentissement considérable du Pouls; Anémic," etc.

*Jour. Hebdom. de Méd.*, 2d sér., 3, 1831, p. 164, "Note on Remarkable Slackening of the Pulse accompanied by an Abnormal Rhythm of the Beating of the Heart," Dr. Martin Solon.

*Revista venita di Scienze Medichi*, 1887, 7 Dr. D'Arman, Venice, "Contribuzione allo Studio del Polso raro permanente con accessi Sincopali od Epilettifori." An article of twenty-seven pages, discussing the subject of slow pulse and its causes. Report of eight cases, with three autopsies.

Case in which wine of colchicum in 5 drop doses reduced the pulse to 20 per minute (*Med. Times and Gaz.*, vol. ii., 1864, 607).

---

### *TREATMENT OF WHOOPING-COUGH BY EUCALYPTUS.*

In the *Lancet* for November 2, 1889, Dr. W. W. Hardwicke writes that during an epidemic of whooping-cough, which recently occurred in his neighborhood, he was induced, by the continual failure of the various popular remedies, such as belladonna, atropine, alum, etc., to effect cures, to try the effect of the oil of eucalyptus. The fact of the extraordinary contagiousness of this disease seems to suggest that the true remedy for this disease is one of an antiseptic nature. This fact has been recognized for some length of time, and carbolic acid has been used for the purpose in various forms, with more or less success. But it must be acknowledged that not only is carbolic acid an imperfect antiseptic, but it is a dangerous drug, even in a diluted form, to be left about among children and nurses. Its offensive smell renders its use for any length of time undesirable. Eucalyptus oil is, on the other hand, a powerful antiseptic, being more than three times as strong as carbolic acid in preventing the development of bacteria, has not the caustic properties of the latter, and does not produce that irritation which the latter does, even when diluted, on the lips or mucous membrane. In combination with terebene the oil forms a mixture having a pleasant aromatic odor, somewhat similar to sandal-wood, exercising a sedative influence on the lining membrane of the air-passages, and possessing, besides antiseptic properties, the power of destroying the virus of the sputum, which is not only found clinging to the thickened and congested mucous membrane of the epiglottis, larynx, and bronchi, but is with every fit of coughing ejected by the mouth, with the possibility of infecting others. This sputum being crowded with bacteria and micrococci, it is upon the destruction of these with their extraordinary power of development and multiplication that our success depends. Dr. Hardwicke says, as a spray, a mixture, composed of two drachms of oil of eucalyptus, two drachms of terebene, one and a half ounces of rectified spirit of wine, is of value. The spray may be used half an hour before each meal and at bedtime, while internally he gives terebene in drop doses to a child from 2 to 3 years of age, in combination with two grains of carbonate of magnesium, and ten minims of compound tincture of camphor to one or two teaspoonfuls of water, repeated every three hours. The two former constituents to be triturated together, the magnesium being used simply as a carriage for the terebene, which is not miscible with water. The paregoric allays the irritability of the cough until the disease succumbs to the specific treatment. Dr. Hardwicke states that in every case where the above treatment has been properly carried out it has effected cures in about a fortnight.

# The Therapeutic Gazette

EDITED BY

ROBERT MEADE SMITH, A.M., M.D.,
Professor of Comparative Physiology, University of Pennsylvania,

PHILADELPHIA.

GEO. S. DAVIS,
Medical Publisher, Box 470,
DETROIT, MICH.

Philadelphia, 714 Filbert Street.

SUBSCRIPTION RATES FOR 1890.
(Journal increased to 72 pages.)

THERAPEUTIC GAZETTE (postage included).....$2.00
THERAPEUTIC GAZETTE with MEDICAL AGE..... 2.50
THERAPEUTIC GAZETTE with AMERICAN LANCET 3.25
THERAPEUTIC GAZETTE with AGE and LANCET... 4.00

Foreign subscriptions may be ordered through our agent in England, Mr. H. K. Lewis, Medical Publisher and Bookseller, 136 Gower Street, London. Price 10s. Remittances may be made either by Postal Order or Stamps.

Price to Foreign Subscribers direct (postage included), $2.50 (10 shillings). English postage stamps received on remittances.

Editorial communications should be addressed 332 South Twenty-first Street, Philadelphia. Articles intended for the Original Department of the GAZETTE will be accepted only with the understanding that they are contributed to it exclusively.

Business communications should be addressed to the Publishers.


## Leading Articles.

### *THE ACTION OF SULPHONAL AS A HYPNOTIC.*

IT almost seems as if the fate of sulphonal was to be a repetition of what has been so often noticed in new drugs. At first received with universal acclamation to finally become more and more distrusted, and at last discarded as useless. We do not maintain that the latter is to be the fortune of sulphonal, but the cases where its results are unsatisfactory, or where its effect is even dangerous, are accumulating only too rapidly. Dr. Marandon de Monthyel has recently published a number of observations which are extremely unfavorable to sulphonal, and his results have been recently confirmed by Professor Mairet (*Deutsche Medicinische Wochenschrift*, October 3, 1889). The latter has recently published an exhaustive essay upon the action of sulphonal, and he found that in doses of 30 grains in only thirty-three per cent. was the action at all satisfactory; upon the second day, or third or fourth day, toxic symptoms appeared, so that the use of the remedy had to be suspended; this state of affairs was especially marked when doses of 45 or 60 grains were given to produce sleep. Dr. Marandon de Monthyel used the remedy in eighteen cases of insanity and seven cases of paralysis agitans, doses of 30 grains being given; of these cases, in only twelve, or less than half, was the result favorable, while in the cases where sleep was not produced symptoms of poisoning were decidedly marked. In fact, the author states that his personal experience has been that with doses of 30 grains only forty-four per cent. of his cases will be free from symptoms of poisoning.

An especially annoying feature in the action of this drug appears to be that, while in some cases large doses may be taken without producing any effect, in others small doses produce the most violent toxic symptoms; while again even those cases which in some instances have proved themselves unaffected by large doses of the remedy, and in whom it may have previously produced satisfactory sleep, suddenly will be violently poisoned by doses which they had taken previously with impunity. Exhaustion, diarrhœa, vomiting, and collapse follow doses which had previously been almost inactive. In one instance, a patient was affected with sudden and violent congestion of the lungs, a fact which is confirmed by the experimental observation that the lungs and other viscera are in a state of violent congestion after poisoning with sulphonal. As it is, Dr. Mairet no longer attempts to give doses of 60 grains two days in succession, since he states that he is confident that doses which are capable of producing sleep will nearly always produce symptoms of intoxication if persisted in.

We may here allude to the results of Jastrowitz, already referred to, who called attention to the cumulative action of sulphonal, referring to the necessity of interrupting the use of this drug in treating chronic insomnia, so as to allow for the elimination of the successive doses of sulphonal. Jastrowitz also has noticed unfavorable symptoms following the use of sulphonal, such as muscular weakness, disturbance of sight, ringing in the ears, and collapse. We can hardly offer any explanation of these effects, which are only now noticed, and seem to have escaped entirely the attention of the earlier users of this remedy. Other cases of poisoning from small doses of sulphonal are published in the *Medical News*, August 10, 1889, when there was a fatal issue, and in the *Medical Press* for September 11, 1889, when delirium was produced.

Fortunately but few instances of any unfavorable action from sulphonal other than giddiness have been reported, although re-

cently, it would appear, a number of cases have occurred in which sulphonal seemed to disturb the cerebral cortical functions, especially as evidenced in the production of ataxic movements. Thus, Dr. Garnier, in the *Archives Medico-Psychologiques*, referred to two cases in which the locomotion was disturbed through the use of sulphonal, although it was impossible to determine as to whether the result was attributable to the direct influence of sulphonal on the cortical motor centres, or whether this was due simply to vertigo, and he refers to the difficulty of satisfactorily settling this point. He further quotes Kast as having noticed in dogs a loss of power in the posterior limbs shortly after the administration of the drug, comparable to that produced by the removal of the motor portions of the cerebral cortex; while Otto has referred to cases in which walking was rendered difficult or impossible after the use of 75 grains of sulphonal.

In the *Lancet* for November 23, 1889, Dr. R. Percy Smith publishes five different cases in which there was temporary loss of power in the lower extremities as a consequence of the administration of sulphonal, 30 grains being the dose usually employed. From a study of these cases, Dr. Smith concludes that the loss of power was not due merely to giddiness, but to some interference, probably, with the cortical functions. In two cases the patients themselves were confident that their condition was not merely due to giddiness, and in the one case the staggering and apparent loss of power were associated with a complete mental confusion. In all cases suspension of the administration of the drug was attended with an immediate disappearance of the unpleasant symptoms, and in some the readministration produced no bad effects. In the same number of the *Lancet*, notes on the use of sulphonal are published by Dr. Henry Sutherland, who finds, from his experience, that sulphonal, while most valuable as a sedative in chronic insanity with recurrent attacks of excitement, is a most valuable remedy in producing sleep shortly after its administration, and its good effects are often seen two and three nights after its administration; but in continued excitement its action is even apparently injurious by increasing the state of excitement in the patients on the following day. Mr. C. Knox Bond, in the same issue of the *Lancet*, advocates the use of sulphonal in the insomnia of typhus (typhoid?), (see p. 67 of this issue of GAZETTE). He states that he has employed it in two or three cases in which sleeplessness was a prominent symptom, and every time with satisfactory results.

To conclude this list, which we have not attempted to make a complete one, we would add that Dr. Knoblauch (*Therapeutische Monatshefte*, November, 1889), the assistant of the neurological clinic in Heidelberg, in an address given before the Neurological Section of the Association of Naturalists, recently held in Heidelberg, goes so far as to agree with the statement of De Monthyel that sulphonal is not a remedy but a poison, basing his conclusions on the facts observed by himself and others, that in many cases the hypnotic action of sulphonal persists until the following day; that it cannot be evoked with certainty in any given time; that the doses which are sufficient to produce sleep vary in different individuals, and even in the same individual at different times; that in many cases marked symptoms of poisoning occur even with doses which are too small to produce sleep. Dr. Knoblauch probably takes an extreme ground, but the testimony as to the inconveniences, and, indeed, almost the dangers, attending the use of sulphonal is so rapidly accumulating, that it is evident the field of usefulness of sulphonal is becoming greatly restricted.

---

## *LEAD-POISONING.*

READERS of the THERAPEUTIC GAZETTE will remember that a little over a year ago we editorially discussed some remarkable papers by Dr. James J. Putnam. He, in these papers, appears to justify the conclusion that the metal lead is an occasional cause of neurasthenia, with or without tremors resembling those of paralysis agitans, of chronic myelitis; also that lead is not to be detected in the urine of more than fifty per cent. of people who have no presenting symptoms of disease, and that when any considerable amount of the lead is found, it is presumptive evidence that any symptoms which are present are produced by the poisoning. Dr. Putnam, in the *Boston Medical and Surgical Journal* of November 28, 1889, publishes the result of a second investigation, especially made to determine the frequency with which lead is to be found in the urine of perfectly healthy persons. The urine of thirty medical students was analyzed, and slight traces of metal were found in three cases, or ten per cent. The urine

of thirteen patients in the Good Samaritan Hospital suffering from pulmonic troubles was chemically investigated, and lead found in three instances. A number of cases suffering from various diseases were further studied, making in all fifty-seven analyses of urine taken from persons who had no symptoms which could apparently be attributed to the presence of lead. We have sixty-eight cases, in twelve of which lead was detected.

If, to compare with this group, we add together all the cases from the two investigations of which it cannot be said positively that they presented no symptoms which would commonly be said to be attributed to lead, we have a total of one hundred and seventeen, in sixty-two, or fifty-three per cent., of which lead was found. Even if we add in the cases presenting no characteristic symptoms, raising the total to one hundred and eighty-six cases, we still find that lead was present in forty per cent., or more than twice the proportion found in the first group. This comparison makes it probable that lead is at least a partial cause of a variety of symptoms not usually attributed to that cause.

We do not propose at present to follow Dr. Putnam in his discussion of the pathology of lead-poisoning and of the relation of the metal to obscure nervous affections, but the question of the diagnosis of lead-poisoning is of such immense practical importance that it can hardly be passed by in silence.

Dr. Putnam asserts that he regards the finding of traces of lead in the urine as of no necessary importance from a diagnostic point of view. Dr. Gowers thinks its significance is much less than that of the lead line, but we can confirm from personal experience the statement made by Dr. Putnam that the lead line is occasionally absent in cases of severe typical lead-poisoning, and we think that whenever lead is found in the urine of a person suffering from obscure symptoms not otherwise to be accounted for, the case may be provisionally considered as one of lead-poisoning, and treatment be instituted. One of the most surprising results of Dr. Putnam's investigation is the extraordinary proportion of cases in which he has found lead in the urine. The proportion is, indeed, so extraordinary that it suggests that his results must be looked upon as local, due to some locally acting cause, which makes the people in the district studied especially liable to suffer from lead. An analysis made by Dr. E. M. Greene, in accordance with Dr. Putnam's suggestions, shows that this surmise is correct. He examined sixteen specimens of water drawn from different places in Boston, in each case the water having been carried from Lake Cochituate and delivered in lead pipes. Only one of the sixteen specimens was free from lead, and some of them contained about one grain of the metal to a gallon.

It seems to us that the people of Boston are suffering from wholesale poisoning by the use of lead-impregnated water, and that it is impossible to tell how wide and deep is the stream of invalidism that results therefrom. We do not believe that results parallel to those obtained by Dr. Putnam could be obtained in this city or any other healthy locality.

| Case. | Symptoms. | Former series. | New series. | Total. | Lead present. | Lead absent. | Per cent. in which lead was present. | |
|---|---|---|---|---|---|---|---|---|
| 1 | No symptoms not attributable to other causes | 11 | 57 | 68 | 12 | 56 | 17.6 | |
| 2 | Fine muscular tremor; nervous debility | 8 | 2 | 11 | 11 | 0 | | |
| 3 | Chronic multiple neuritis; neuritis with chronic and subacute myelitis; spastic paraplegia; multiple sclerosis | 19 | 24 | 43 | 27 | 16 | | |
| 4 | Progressive muscular atrophy | 4 | 1 | 5 | 0 | 5 | | |
| 5 | Cerebral and cerebro-spinal cases | 7 | 2 | 9 | 7 | 2 | | |
| 6 | Epilepsy | 8 | 4 | 12 | 4 | 8 | 53½ | 40 |
| 7 | Sciatica | 2 | 1 | 3 | 0 | 3 | | |
| 8 | Acute polio-neuritis | 0 | 2 | 2 | 0 | 2 | | |
| 9 | Digestive disorders | 0 | 2 | 2 | 0 | 2 | | |
| 10 | Simple anæmia and debility | 0 | 4 | 4 | 0 | 4 | | |
| 11 | Remaining cases from former series | 26 | ... | 26 | 13 | 13 | | |
| 12 | Rubber-workers | 0 | 8 | 8 | 5 | 3 | | |
| 13 | Optic neuritis | 0 | 2 | 2 | 2 | 0 | | |

No statistical importance is to be attached to these ratios, except as stated in the text.

### *THE USE OF BROMIDE OF RUBIDIUM AND AMMONIUM IN EPILEPSY.*

IN the October issue of the GAZETTE, 1889, we referred to some experiments which had recently been made by Laufenlauer as to the use of the bromide of ammonium and rubidium in the treatment of epilepsy. The results which he obtained were encouraging enough to point to the advisability of an extension of his studies, for although he seemed to prove that the value of this double salt was quite equal to that of the bromide of potassium, yet the number of his cases appeared too small to permit of any reliable deductions from them. Stimulated by his success, however, Dr. Rottenbiller (*Centralblat für Nervenheilkunde*, November, 1889) has undertaken a series of experiments with this salt in the hospital in Buda Pesth, to determine its value in the treatment of epilepsy. Even in these cases, however, the number of patients was only five, and although his report by itself would be of but little value in determining the status of this new remedy, yet, taken in conjunction with Professor Laufenlauer's results, the confirmation which is expressed, added to that of Dr. Laufenlauer's, is an additional testimony of the probable future of this drug. In each of these cases the administration of 180 grains in divided doses of the bromide of rubidium and ammonium relieved in every instance the number of epileptic attacks, proving itself in this dose to be more energetic than the bromide of potassium in similar amounts. No after-effect of any kind was noted, although this is, perhaps, attributable to the fact that, owing to the high price of the remedy, treatment was not persisted in. His results seem to show that in certain instances this double salt possesses the power of reducing the frequency of epileptic attacks. He does not say that in any case it cured; it is not stated as to how long the improvement persisted, or as to whether the result had been obtained in cases where potassium bromide had failed. It is evident, therefore, that still further study is necessary before the value of this remedy can be determined.

---

### *HYPNOTISM.*

AT a recent clinic at the University Hospital held by Professor H. C. Wood, two cases were shown that had been cured by hypnotism. One of these cases had suffered from almost complete paraplegia, motion being reduced to slight alterations in position of the feet when lying in bed. The other patient had suffered from incessant tremors of the right hand, exactly simulating paralysis agitans. The doctor stated that before he had commenced treatment of these cases, he had made up his mind that the diseases from which the patients were suffering was hysterical. He further said that the physicians of France, England, and Germany appeared to be almost unanimous that the good results were due to suggestions made during the hypnosis, the accepted theory being that suggestions made during the hypnotic state are capable not only of affecting the actions of the individual during the hypnotism, but also of affecting the functions of organic life so as to alter diseased process without the patient being conscious that any suggestion has been made.

The absence of control experiments was also commented upon, and the statements made that in neither of the cases before the class, although cures had been rapidly obtained, had any suggestions whatever been made during the period of hypnosis. These important observations show that the cure produced by hypnotism alone is not the result of the suggestions made, or, at least, that it is not always the result of the suggestions, and make it probable that the good effects obtained are simply due to mental influence, as was indicated in the editorial which we published in the THERAPEUTIC GAZETTE of September 15, 1889.

---

### *AN IMPORTANT WORK.*

WE are glad to welcome to our editorial table as a very important pharmacological contribution the new brochure—No. 3 of the Arbeiten des Pharmakologischen Institutes zu Dorpat—put forth under the auspices of Professor R. Kobert. It contains about one hundred and fifty pages, which are occupied by two papers. One of these is a research by Mr. E. Kiwull, of Riga, upon some preparations of "Solvine," and the other, a study by H. Stillmark and Professor Kobert himself, on "Ricin." Mr. Kiwull reaches the conclusion that the pharmacological and physiological properties of solvine are very much like those of saponine, which body it also resembles in some of its physical characteristics, especially in making a soapy solution. He confirms the original caution of

Professor Kobert that it is necessary to use great caution in employing solvine as the basis of external applications, contrary to the assertions which have been made in some of the American journals that it might be used in this way without fear. It is evident that solvine is far from inert, that it is really unfit to be used as a vehicle, although it possesses locally stimulant properties which may make it useful in certain skin-diseases. Until careful clinical studies are made with it, however, its application in therapeutics must be considered experimental.

The investigation upon ricin is a wide-reaching one, taking into consideration the activities of the very many euphorbiaceous plants, and being chemical as well as physiological.

The author reaches the conclusion that ricin is an albuminous body, one of the so-called phytalbumoses, and belongs to the group of unformed ferments, and has nothing to do with the glucosides and acid anhydrides. As obtained from the *Ricinus communis* it is a very poisonous substance, violently irritating, causing erosions and ulcerations to the mucous membrane of the gastro-intestinal tract, when given either by the mouth or intravenously. These erosions are believed by Herr Stillmark to be the result of coagulation of the blood and consequent thrombotic arrests of circulation in the intestinal capillaries. A number of cases of poisoning by ricin are given, and the conclusion reached that poisoning with this impurity in castor oil is now more frequent than formerly, a conclusion, however, which does not seem to us justified by the apparent increase of the poisoning, said increase being probably due to the great increase of population in civilized countries and to the growing habit of reporting cases.

## Reports on Therapeutic Progress.

### *CHOLECTOTOMY.*

At the meeting of the Clinical Society of London, held October 5, 1889, MR. MAYO ROBSON, of Leeds, read a paper upon fourteen cases of cholectotomy which he had performed, eleven being for gall-stones, one for empyema of the gall-bladder, and two for distended gall-bladder; due in the one case to cancer of the head of the pancreas; in the other to cancer of the bile-duct (*Lancet*, November 2, 1889). All the patients operated on for gall-stones had recovered. Of the other cases, the patient suffering from empyema of the gall-bladder was operated on when apparently dying from acute peritonitis, but after the operation she made a good recovery except for a biliary fistula which was afterwards closed by cholecystenterostomy. The case of cancer of the pancreas had succumbed on the eighth day to a constant oozing of blood from the interior of the gall-bladder, and from the suture punctures. It commenced on the day following the operation, and was apparently due to the altered condition of the blood, brought on by persistent jaundice of several months' duration. In the case of cancer of the bile-duct, although there was intense jaundice, there was no subsequent bleeding or other complication; this might possibly be due to the arrest of hemorrhage at the time of operation by ligatures instead of by forcipressure. Of the cases operated on for gall-stones, six patients had sought advice in consequence of the presence of a tumor combined with the usual symptoms; in these cases, Mr. Robson pointed out that the operation was usually much simpler than in the other group, where no tumor could be felt, although in one, where an apparently solid tumor was exposed which was due to the matting of the viscera surrounding the gall-bladder, so that the mass appeared at first to be a malignant growth, it was found impossible to shut off the general peritoneal cavity by suturing the parietal peritoneum to the gall-bladder, as it was practically destroyed by suppuration; and drainage with sponge-packing had to be resorted to to prevent general peritoneal infection. Dr. Churton had pointed out to Mr. Robson that he had previously seen in the post-mortem room a similar condition of affairs, where suppuration of the gall-bladder had led to the formation of a tumor resembling a malignant growth, but where an exploring-needle pushed through the overlapping edge of the liver had revealed the presence of pus. Of the cases, five in number, operated on, on the strength of symptoms alone, Mr. Robson remarked that he believed many such cases of frequently recurring biliary colic would in future be saved the intense suffering and the many dangers of their disease by timely operation. He pointed out that these operations were not always easy, as the gall-bladder was frequently very small, and could with difficulty be brought to the surface; in fact, in his fourteenth case the gall-bladder was shrunken to the size of the last

joint of the thumb, and was lying very deeply under cover of the liver, so that when he had incised it and removed several gall-stones from the duct, the lower part of the opening could not be made to reach the parietal peritoneum, and a piece of omentum was brought up and sutured on the one hand to the gall-bladder, and on the other to the parietal peritoneum, thus shutting out the general peritoneal cavity. Mr. Robson thought that omentum grafting, first proposed by Dr. Sena for enterorrhaphy, but he thought not hitherto performed to surmount a difficulty of the kind above related, would in future often be found very useful in abdominal surgery, and perhaps especially in such cases as he had mentioned. With regard to the danger of biliary fistula, Mr. Lawson Tait had remarked that "biliary fistula after cholecystotomy could only be permanent when the operation happened to be performed at a time when a gall-stone was impacted in the common duct;" the author of the paper said that he believed this to be true generally, as proved by Mr. Lawson Tait's cases, but in the only case of biliary fistula which had followed the operation in his own hands, the cause was other than gall-stones, as when he had performed the operation for the closure of the fistula, he had very carefully examined the whole length of the common duct without finding an obstructing calculus. In conclusion, he remarked that he believed that with due care cholecystotomy, in the absence of malignant disease, was a procedure attended with comparatively little danger, and that the great relief which the operation conferred amply compensated for the attendant risks.

---

### *THE DIAGNOSIS OF PYOSALPINX.*

At a meeting of the American Association of Obstetricians and Gynæcologists, held September 19, 1889, in Cincinnati, Dr. R. B. Hall, of Cincinnati, read a paper entitled "Some Points in the Diagnosis of Pyosalpinx." The author believes the importance played in the production of suffering by this disease has not received the attention which it merits. The general practitioner sees and treats the great majority of these cases before they are seen by the operator, and if it is hoped or expected to afford relief to a great number of suffering women all over the land, the subject of diagnosis must be better understood than at present. The importance of septic infection in the production of inflammatory disease of the uterine appendages is the cause of these diseases in a large percentage of cases. Repeated attacks of acute exacerbations from perhaps trivial causes, finally produce complete closure of the ends of the tubes. As a consequence, the normal secretions of the tubes soon become pathological, and by repeated attacks of inflammation may become changed into pus, producing the typical pyosalpinx. The speaker is convinced that this affection frequently follows puerperal diseases and gonorrhœal infection, but does not consider these the most common causes of the disease. He believes pyosalpinx to be contracted in two different ways: (*a*) By a chronic process, causing dropsy of the tube, which, by repeated attacks of inflammation, is changed to pus; (*b*) it may be rapidly produced by an acute process following gonorrhœa and puerperal disease. A history of almost constant suffering for years, directed to a certain locality, perhaps originating in an attack of pelvic or abdominal inflammation, connected or not with parturition. To this may be added sterility, and we have a most important aid to a correct diagnosis in the history of the case. Diseased appendages can usually be recognized by a vaginal examination, yet this is not always possible. In most cases it is difficult, and in many impossible, to make out the exact disease of the appendages except in cases of pyosalpinx. We usually have an irregular ovoid tumor, showing swellings and contractions not found in any other pelvic tumor but tubal collections. This tumor is generally of small size; it may be in the retro-uterine space extending towards the pelvic brim on the one side, with a second tumor on the other side higher up; or it may be distinctly felt as a narrow furrow, which is occasioned by a portion of the uterine end of the tube remaining undistended by pus, while the distal end of the tube is enlarged to form the tumor. This furrow is not so plainly felt in those cases where there is a periodical discharge of the pus through the tube into the uterine cavity. This is a very valuable sign to help in making a diagnosis. If we have all the other symptoms of pyosalpinx, with a history to confirm them, where we can feel the enlarged tube before a discharge of pus from the uterus, and immediately after the discharge has occurred we find that the tube has collapsed, then we have proof positive of the existence of pyosalpinx.

If the previous history of the case be care-

fully learned, and given due weight and consideration, the author believes the diagnosis is not so difficult as usually thought. The uterus is more or less fixed and misplaced. In the majority of cases seen by him there has been pain during defecation, particularly where the tumor occupied the retro-uterine space. Most cases gave a history of dyspareunia. If pain has long been a prominent symptom, and it is evident the tube contains pus, the case must be looked upon as serious and demanding prompt relief. Delays are dangerous, as the bursting of the tube may cause fatal peritonitis, and escape should be afforded the offending pus by removal of the tube.—*Medical Record*, October 19, 1889.

---

### *THE TREATING OF PNEUMONIA BY THE ICE-BAG.*

At a meeting of the Harveian Society of London, held on October 17, 1889, Dr. Lees read a paper upon this subject (*British Medical Journal*, October 26, 1889). Four years ago he published an account of "Two Cases of Broncho-Pneumonia treated with Bleeding and Ice," and since that time he had tested the use of the ice-bag in pneumonia as opportunities occurred. He had found so great benefit from its use, that he had mentioned the matter two years ago to some of his friends, who had large opportunities of clinical observation in hospitals and elsewhere, and had asked them to give the ice-bag a fair trial. He believed that they would be able to confirm the results at which he had arrived. It was necessary to be cautious in drawing conclusions about the effect of remedies in pneumonia, because of the "crisis" which usually occurred as a part of the natural history of the disease on any day from the third to the tenth. The use of cold compresses to the chest in pneumonia was advocated twenty years ago by Niemeyer. Dr. Lees claimed that the ice-bag produced a much more powerful local impression. Niemeyer confessed that some patients found the compresses so disagreeable that he had been obliged to give them up, but Dr. Lees had found that the patients usually liked the ice-bag. He then related the main facts of eighteen cases, under his own care, in which this treatment had been tried, grouping them according to the effect apparently produced. 1. Cases in which immediate final arrest of the pyrexial process followed the application of the ice-bag. Three cases were included under this head; all were mild. 2. Cases in which immediate arrest of the pyrexial process followed the application of the ice-bag, and a relapse followed its removal. Two cases were related under this head. 3. Cases in which immediate arrest of the pyrexia followed the use of the ice-bag; a relapse followed its removal, and a second fall occurred when the ice was reapplied. This included three cases. 4. Cases in which rapid fall of temperature followed the application of ice, but relapses (apparently due to implication of fresh portions of lung) occurred while the ice was being continuously applied. This comprised two cases. 5. Cases in which no immediate arrest of the pneumonia followed the application of the ice, but obvious relief to symptoms resulted. This comprised four cases. 6. Cases in which no very obvious benefit resulted from the use of the ice-bag. This comprised two cases. In reviewing these cases, it was pointed out that none of them died, though two at least would certainly have died without the ice-bag, and two others would almost certainly have done so. In the great majority remarkable improvement followed the use of the ice-bag. The reduction of temperature, which usually occurred at once, was often very striking. Instead of the "entire degree" claimed by Niemeyer as the result of the use of cold compresses, it frequently amounted to 3° or 4°, or even more. If a subsequent rise occurred, it was usually to a decidedly lower level when the ice had been permanently applied, and though when the ice had been removed, the subsequent rise often passed the original height, it was rapidly again reduced to a second application. These results were specially observed in children, perhaps partly because their temperature was more easily affected than that of adults, and partly because the ice bag covered a larger proportion of their smaller chest-wall. But the improvement was not confined to a mere reduction of temperature. In many cases there was a striking arrest in the development of the physical signs and also of the general symptoms, and it was particularly to be observed that in some instances this improvement began an entire day or more before the crisis, and was far advanced when that event occurred. Occasionally, in slight cases, the application of the ice had been followed by the immediate complete termination of the disease, but no stress was laid upon this because of the possible fal-

lacy of synchronism with the crisis. But in the two cases of broncho-pneumonia seen in young children in their very earliest stage, it certainly seemed that the disease was promptly cut short. Dr. Lees had never seen any harm done by the ice-bag in pneumonia, though in one case of typhoid he had seen shivering and some lividity produced by it; this, however, was easily remedied by warmth and brandy. Similar symptoms might no doubt be produced by the incautious use of ice in pneumonia; they were the more likely to happen the younger the patient, and especially in feeble and rickety children. They might almost always be prevented by a sufficiently careful observation of the temperature. It was a good rule to ascertain this hourly, and to remove the ice when it fell to 100°, replacing the ice if a rise to 102° followed. In some cases it was wise to apply warmth to the feet, or even to the abdomen, at the same time that the ice-bag was applied over the inflamed lung. It was well, also, to keep the ice away from the præcordial region, to prevent any depressing action on the heart, similar to that demonstrated by Dr. Brunton on the excised heart of the frog. Dr. Lees did not advocate the use of the ice-bag in pneumonia occurring in very feeble children, or in aged persons, or in adynamic conditions generally. But, with these exceptions, he thought there was reason to conclude that its employment had a distinctly curative influence, that it did not simply reduce temperature, but directly tended to repress the inflammatory process in the lung, with more or less success, according to the severity of the case. He concluded with a reference to a note published by Dr. Angel Money some months ago, and to the results obtained by the ice-bag treatment in pneumonia by Dr. Fieandt, a Finnish physician.

Dr. Goodhart had for eighteen months used no other application than the ice-bag in cases of acute pneumonia, and he gave an account of eighteen cases thus treated. A good result was obtained in eight cases, the temperature falling promptly, and convalescence being rapidly established. In seven cases it was doubtful if the treatment had had any effect whatever, while in three cases symptoms of collapse were produced of a very temporary nature, for it subsided as soon as the ice-bags were removed. It was difficult to eliminate the question of the natural crisis of a pneumonia having coincided merely with the application of the ice, but it was also possible to underrate the value of any treatment because of the presence of pleurisy, which interfered with the beneficial results of the remedy. Dr. Goodhart, however, concluded that there was no danger in applying this treatment, such collapse as might occur being easily detected and remedied by brandy and warmth to the feet, and by avoiding its use in patients under 2 years of age. He himself did not think that collapse was increased by the application of cold over the cardiac region. Moreover, he believed that warm applications were greatly overdone, and the ice-bag treatment was a useful alternative.

Dr. Sturges had had but little experience of this mode of treatment; nevertheless, his conclusions were rather those of Dr. Goodhart than of Dr. Lees. All the cases that Dr. Lees had described were of young persons, and the mortality in these was always very small. In children it was especially difficult to decide between broncho- and croupous pneumonia. Broncho-pneumonia was dangerous, but croupous pneumonia in children was very rarely fatal. Three cases described by Dr. Lees were of broncho-pneumonia, and in these ice and bleeding had been very efficient in relieving the patient. These were the most important cases described, and Dr. Sturges thought the treatment most likely to be of use in broncho-pneumonia. In a case of lobar pneumonia in the Westminster Hospital under Dr. Donkin, the temperature rose to over 106°, and there was great prostration. The ice-pack was applied, and a recovery ensued. Dr. Sturges expressed the view that lobar pneumonia, by its nature, was such that it was impossible to say that any remedies were successful in curing the disease. The late Dr. Hughes Bennett had reported over one hundred cases of pneumonia, some in elderly people, with a mortality of only five per cent. Pneumonia and typhus, in regard to the influeuce of remedies, were much alike. The temperature, delirium, and headache were much relieved by drugs, and the patient made comfortable. In this way ice was certainly of use, as Dr. Sturges had himself observed, but he doubted if the evidence was yet sufficient for them to say that ice arrested pneumonia. He doubted also if it was, as a rule, a great good to shorten the pneumonia. In the pneumonia of drunkards, however, the inflammation was very destructive, but this was a very different disease, and it was especially doubtful here if ice would be of any use.

Dr. Coupland had tried the ice in a few cases in young people. He was satisfied with the treatment on the whole, and had had no

ill results. He also doubted if the treatment had shortened the cases, but it had certainly relieved the symptoms.

Dr. Angel Money made a sharp distinction between two forms of pneumonia. He would not, for instance, use the ice-bag in what he called epileptic pneumonia, styled by the French "herpetic pneumonia." Here the onset was so sudden, the course so definite, and the sudden termination so certain, that the disease resembled an epileptic fit. In other cases, however, the ice-bag was of great value, though he did not say it curtailed pneumonia. It relieved the patient, and it was safe in application. He had had a very extensive experience of the ice-bag treatment, and he would mention one case in particular of alcoholic pneumonia, where he had made use of ice- and the wet-pack with great relief to the symptoms, but without saving the patient's life.

Dr. Sidney Phillips had used the ice-bag himself, and seen it used much by Dr. Wilson Fox. The temperature was undoubtedly lowered by the ice-bag, but it might for this purpose be applied to any part of the body. An objection to the ice-bag was that on its removal the temperature again rose, and sometimes to a higher degree than before. This was the case with all antipyretics, and it was doubtful whether it was desirable to attempt a lowering of temperature by such means, unless it had attained a very high degree. The ice-bag scarcely shortened the disease.

Dr. Tirard had tried the ice-bag treatment in the Evelina Hospital. Of six cases thus treated, three were benefited, in the other three alarming collapse resulted. In six other cases not treated by the ice-bag, and also without poultices, the course of the cases was always good. Dr. Tirard hesitated to accept all the good promised from the ice-bag; comfort was increased, but the disease not shortened.

Dr. Lees, in reply, said it was certainly difficult to arrive at the true conclusion as to a particular remedy. Dr. Lees thought it very desirable to cut short the disease if possible. Lobar pneumonia in young children nearly always got well, but some cases did not, and the two cases of undoubted lobar pneumonia which he had mentioned were specially dangerous, and he believed would not have recovered if left to themselves. He hoped, now that it had been shown that no danger resulted from adopting this treatment, other observers would be induced to give it a trial and record their experience.

### *THE PHYSIOLOGICAL ACTION OF THE IODIDE OF POTASSIUM.*

At the meeting of the French Academy of Medicine, October 15, 1889, M. Trasbot read a paper upon the physiological action of iodide of potassium, which contained results which have, as yet, apparently escaped notice (*La Tribune Médicale*, October 17, 1889).

The writer found that the iodide of potassium produced acceleration of the pulse and marked vascular dilatation, which leads to an abundant secretion from different glands. Further, Trasbot claims that iodide of potassium reduces the temperature one degree or more after its ingestion and slows respiratory rhythm. It is to these properties that the action of iodide of potassium in various affections of the bronchi and of the heart are attributable.

Professor Germain Sée has, likewise, recently completed an elaborate series of experiments as to the action of the iodide of potassium on the heart, his results being embodied in a communication before the French Academy of Medicine, and reported in the *Lancet* for October 26, 1889. He began with the remark that it is not sufficient to affirm that iodide of potassium has a tonic action on the heart, but it must be proved that it is so and how or why it is so. This the learned professor had endeavored to resolve by experiments in the laboratory and by clinical observation. In conjunction with Dr. Lapicque (his *chef de clinique*) his researches were first directed towards the modifications of the blood-pressure under the influence of the iodides of potassium and of sodium, to ascertain whether these salts produced a vaso-constriction or a vaso-dilatation, and also the conditions of the mode of their action. This was done by injecting into the saphenous vein of numerous dogs solutions of the iodide of potassium or of sodium in the proportion of 1 to 10 parts. The dogs were feebly curarized, and a registering manometer indicated the pressure in the carotid or in the femoral artery. It is known that the salts of potash excite the heart and the vaso-constrictor nerves, and raise the blood-pressure. Nothing of the kind takes place with the salts of soda. M. Sée had first verified that the radicle potassium conferred on its iodide the properties of the salts of potash. The following were the very interesting results obtained: When iodide of potassium or iodide of sodium is injected into the blood phenomena are observed which present two distinct phases. M. Sée designates the first "the phase of the alkali," and the second "the phase of the iodine." When

the iodide of potassium is employed, the phase of the alkali is distinctly characterized. The heart's beat is accelerated, the pressure raised, and the tracings present great oscillations, which are slow and regular. When the iodide of sodium is employed, the phase of the alkali is indicated by a very slight elevation of the pressure, slowing of the action of the heart, with occasional intermissions. On the contrary, the phase of the iodine corresponds with the injection of either of the two salts, and it is indicated by the pressure, which descends slowly, in a continued manner, and by the action of the heart, which is accelerated. M. Sée offers in explanation of this similitude that the iodide of potassium is decomposed, that the potassium is eliminated, and that the iodine is thus found in the blood, combined with the sodium, whatever be the iodide primarily injected. However that may be, Professor Sée's experiments seem to show that the iodide of potassium first determines phenomena of excitation, with the action of the heart accelerated, an elevated pressure, a manifest vaso-constriction; then follows vaso-dilatation, with low pressure, which is also determined by the iodide of sodium. In the vaso-constriction, with elevation of pressure, and the strengthening of the heart due to the potassium, the vaso-dilatation and lowering of the pressure due to the iodine, we have, says M. Sée, the explanation of the effects of the powerful action of the iodide of potassium. The vaso-dilatation explains the hyperæmia of the bronchial mucous membrane and the hypersection which results from this drug, and which is so useful to asthmatics for getting rid of viscous secretions. It explains the pulmonary hyperæmia which results from the venous stagnation in cardiac subjects. It also explains the antidyspnœic power of the iodide of potassium in facilitating the circulation in the medulla, and consequently restoring it to its normal functional activity. Immediately the paroxysmal or continued dyspnœa, the fits of suffocation, etc., completely disappear. The vaso-dilatation finally explains how the heart becomes freed from the obstacles which the tonicity of the arterial vessels presents to it, how the coronary circulation becomes more free, and how the heart becomes re-enforced and beats with energy. On the other hand, iodide of potassium primarily strengthens the heart and the pressure. Hence M. Sée, comparing its action with that of digitalis, and studying the toxicity of the salts of potash, so exaggerated by physicians, has given it the name of "digitalic poison,"—that is to say, beneficial. It results from these considerations that iodide of potassium is applicable to the greater part of the diseases of the heart and of the coronary vessels. Useful in the most diverse lesions, M. Sée would condemn it only when it determines hemorrhages or permanent gastric iodism. It is not only useful against dyspnœa, it is still more so in many other cases, and M. Sée explains how and why it is so. Iodine reduces the fatty element in fatty degeneration of the heart. In fibro-adipose degenerations, in sclerosis, one cannot expect the reduction of the transformed tissues, but the muscular fibres which have quickened their circulation remain and are consequently improved in their function, whence the indication for iodide of potassium in all cases of degeneration. If the heart be weakened from overwork, or be in a state of asystolism, iodide of potassium renovates the weakened or distended tissues of the heart. If the left ventricle be hypertrophied, the most that the drug can do is to render the cardiac circulation more active; it cannot be injurious, as it does not reduce the muscular fibre. In coronary sclerosis (angina pectoris) it is useful in dilating the coronary vessels that have remained free and healthy; but this is not an arterial medicament in the denutritive sense. In cardialgia (false angina pectoris), where the pains are so severe, where the respiration is polypnœic, it has incontestable advantages combined with antipyrin or with inhalations of the vapors of pyridine. In Basedow's disease, or where there already exists a morbid vaso-dilatation, the iodide of potassium will be useless, or even dangerous. On the contrary, it is in aneurism of the aorta that it succeeds, although it is not by producing the coagulation of the blood, as is generally believed. But it is here, in particular, that M. Sée objects to the use of iodide of sodium, the employment of which nothing can justify.

---

### *COCAINE IN DIABETES.*

In the course of diabetes it is no uncommon thing to find that glycosuria disappears on the development of an illness attended by febrile exacerbations. Towards the termination of diabetes, when phthisis is fully developed, we frequently notice that sugar disappears from the urine as the temperature becomes high. A high temperature, or, perhaps, more correctly speaking, the condition which causes the temperature to become high, is thus seen to be followed by a disturbance of the glycogenic function of the

liver. Is it possible that diabetes may be thus cured?

In the *Lancet* for October 12, 1889, Dr. Thomas Oliver reports a case which appears to lend weight to such a probability. The case was that of a gentleman who had been several months under treatment for diabetes. Contrary to medical advice, he went to the races one cold day, where he got chilled. He had shortly afterwards a rigor, which was followed by an atypical pneumonia, attended by a considerable rise of temperature. The urine was now found to be quite free from sugar, and it remained free from sugar for more than a year, during which time the patient had quite regained, and felt himself in, his usual good health. From observation of these facts, it would appear as if the employment of medicines of the pyrogenic class might be followed by good results in the treatment of diabetes.

Accordingly Dr. Oliver was lead to try cocaine in the case of a man aged 43, who was admitted to the Newcastle Infirmary suffering from diabetes of five months' duration. His mother died in an asylum at the age of fifty; the rest of the family history is on the whole good. Five months previously he had noticed that he was passing too much urine, and that his thirst and appetite were excessive. Prior to this he had suffered much from anxiety and worry in business. His skin is dry, and shows here and there patches of psoriasis. Beyond puerile respirations at the apices nothing abnormal is detected in the lungs. His heart is healthy. In the abdomen nothing abnormal is noticed. He has, however, the gait of an ataxic. In walking he sways from side to side, is very unsteady, says he feels as if the floor were going up and down, feels giddy, and complains of numbness in the arms and hands. He does not fall, however, when his eyes are closed. Knee-jerks are present, but the response is slow and the amplitude large. Pupils are normal. He is the subject of delusions. When he awakes during the night he sees various objects with a peculiar color, particularly men wearing black hats and yellow tassels. Temperature normal. Is passing thirteen to sixteen pints of urine daily, acid, specific gravity 1034; no albumen. The amount of sugar varies from six thousand to seven thousand grains daily. He complains of a most obstinate constipation. His bowels are not relieved for six or seven days at a time, even though strong purgatives are employed, aided by enemata. This case was first treated by codeine, and, gradually increasing the dose, it was noticed that the urine fell to eight pints daily and the sugar to four thousand grains. Beyond this diminution in the amounts of urine and sugar eliminated daily, it was noticed that there was no improvement generally; the patient's symptoms remained the same. Dr. Oliver then determined to try cocaine. This he gave in ¼-grain doses three times a day. Until now one of the most difficult symptoms to treat the case was the obstinate constipation, but he had only taken the cocaine a few days when the constipation entirely ceased, and his bowels, which had hitherto refused to act to the strongest purgatives, now began to be moved once or twice daily. His nocturnal delusions also entirely disappeared. On ophthalmoscopic examination, Mr. Williamson, Dr. Oliver's colleague, reported the existence of a patch of old-standing choroiditis at the inner side of the disk of the left eye, and that the lens and disk of both eyes were normal. His temperature at this period ranged from 97° to 98°. When weighed, on April 29, it was found that six pounds in weight which he had lost had been regained, and that his bowels continued to act well. In May the patient seemed to be progressing very satisfactorily. Urine varied from six to eight pints daily, and the amount of sugar from eleven hundred to three thousand grains. His delusions had not returned, he was sleeping and eating well, he had lost his vertigo and the swaying movement when walking; also a painful sense of muscular fatigue, of which he had previously complained. Instead of constipation, his bowels were now moved sometimes twice and thrice daily. At this stage of his illness the patient was passing from four to five pints of urine, and the daily average elimination of sugar was eleven hundred and twenty grains. The specific gravity of the urine was a little over 1020. Thinking that the cocaine was acting too much upon the bowels, Dr. Oliver stopped it. No sooner was the cocaine stopped than almost immediately the urine rose to seven and nine pints daily, and the average amount of sugar to three thousand nine hundred grains. At this stage he injudiciously exposed himself, and caught cold, and had an attack of pneumonia. The feet and hands once more became œdematous, and the amount of urine fell to two pints daily. Later on albumen was detected in the urine, but it was only present for a few days. His temperature ranged from 98° to 101°; the dropsy par-

tially disappeared after the use of digitalis, but he died of syncope.

The points of interest in this case are these: First, the result of the administration of cocaine, the consequent total disappearance of a most obstinate constipation. Disappearance of a gait not unlike that of ataxia; of delusions, and a sense of muscular fatigue; the return of a feeling of improved health and strength, with a gain in weight; a marked diminution in the amount of urine excreted; a very decided fall in the daily elimination of sugar. Cocaine, however, failed to raise the temperature.

---

### *THE PHYSIOLOGICAL ACTION OF HYDROCYANIC ACID.*

As is well known, hydrocyanic acid is one of the most active of all poisons, only 1 drop placed upon the conjunctiva serving to produce instant death in dogs. This lightning-like rapidity of action has stood largely in the way of the study of the *modus operandi* of this poison. In *La France Médicale*, October 5, 1889, Dr. M. N. Gréhant reports the results of a number of experiments which he has made to determine the physiological action of this substance, employing the method of dilution recommended by Claude-Bernard, which consists in injecting successively into the blood amygdalin and emulsin, thus producing prussic acid; or by diluting it to a twenty-five per cent. solution with water. Dr. Gréhant writes that after slowly injecting into the jugular vein of a dog weighing sixteen pounds amygdalin in two and a half drachms of water, followed by injection into same blood-vessel of two drachms of milk of almonds, in about three minutes the animal was greatly agitated, in five minutes the cornea was insensible, the respiration was completely arrested, while the beats of the heart still continued for a few minutes. On opening the thorax ten minutes after the commencement of the evidences of the poisoning, the heart was found arrested. Artificial respiration was employed in one animal poisoned in the same manner, but without producing continuation of the beats of the heart. Dr. Gréhant then injected into the jugular vein 20 minims of the emulsion of hydrocyanic acid 100 to 400 of water. There was likewise considerable excitement, but the animal continued to breathe. Three minutes after the first injection 15 minims were again injected, and about a moment later there was a temporary arrest of respiration, although the heart was still beating and the cornea insensible. After five minutes and a half there was complete arrest of the respiratory movements, although the beat of the heart continued for four minutes longer. Experiments made upon frogs lead to the same result,—that is, arrest of the respiration before the heart was affected.

---

### *GLYCOSURIA.*

At the meeting of the Medical Society of London, held October 28, 1889, Dr. Ord read an interesting paper in regard to the presence of sugar in the urine (*Lancet*, November 2, 1889). He had published some time ago, in the St. Thomas's Hospital Reports, some notes on glycosuria in people past middle life, and he now added a few statements and remarks by way of supplement and illustration. The conditions which determined the presence of sugar in the urine in pathological quantity were: 1. Excessive afflux of arterial blood to the liver, and probably to other glycogenic organs. 2. Defective assimilation of glucose. 3. Defective formation of glycogen. 4. Instability of glycogen,—*i.e.*, the formation of glycogen which was too ready to change. 5. Excessive ingestion of glucose or glucose-yielding substances. Under the first head might be gathered several kinds of cause,—*e.g.*, (*a*) vaso-motor paralysis determined by disease, or injury of the medullary centre, or of the nerves connecting the centre with the arteries of the liver; (*b*) dilatation of the hepatic artery, not determined by disease of nerve-centre or centres, but by irritation of the liver, or determined by reflex action at the instigation of other organs, such as the stomach or by general disorder of the circulation; functional, as a result of nerve strain or excitement, functional and probably also dyscratic, as in gout; (*c*) possibly also compensatory arterial hyperæmia, balancing obstruction of the arterial circulation in other parts and systems of the body. Dr. Lauder Brunton, in his "Hand-Book for the Physiological Laboratory," gave an admirable summary of the various ways in which nerve sections and nerve irritations might produce glycosuria, and he stated that it was of great importance to note that section of the sympathetic cord or splanchnic nerves did not produce diabetes, although the vaso-motor nerves of the liver were thus divided, his explanation of

this being that as the vaso-motor nerves of the intestines were divided at the same time, so much blood went to the intestinal vessels that the circulation in the liver was not increased. If this explanation were admitted, it seemed reasonable to argue that an undue contraction of arteries in other parts of the body than the liver might determine an excessive blood-pressure in the arteries of that organ, and so set up glycosuria, the liver itself not being necessarily at fault. His notes afforded several instances showing the influence of heredity in bringing about glycosuria, but it was of course evident that the existence of this affection in minor degrees had been often overlooked in the past, and that a better estimation of the transmission of the tendency would in the future be more possible under the steady maintenance of careful examination of the urine. As to the way in which the transmission was ordered, in one case it seemed to go with the gouty diathesis from the father's side; in others it was observed who were the subjects of nervous instability; in others, again, these conditions were absent, and tissue imperfections had to be invoked, the occurrence of glycosuria in very stout people being a noteworthy fact. He was inclined to regard both the accumulation of fat and the occurrence of glycosuria as marks of imperfect forms of nutrition. In many cases, in conjunction with obesity, the influence of persistent alcoholic excitement of the liver could not be overlooked, the irritation producing a reflex active hyperæmia and consequently glycosuria. For those victims of alcoholism who presented glycosuria, and who were emaciated, a different explanation must be sought. A considerable proportion of these cases had valvular disease of the heart, and irregularities of arterial tension might here have to be considered. It was not unfrequent to find people suffering with symptoms of contracting granular kidney to be also affected with glycosuria. Whether it was here due to a general defect of assimilative or constructive process or related with a very definite arterial tension was not easily to be decided. Again, he had observed the occurrence of glycosuria in two cases of Raynaud's disease, and in a third with disease of kidneys, sloughing ulcers, and syphilis. From cases he had since seen he concluded that glycosuria was often present in tertiary syphilis, and under conditions not involving irritation of the medulla. In these cases signs of hepatic disorder were always present, and he thought that hepatic irritation was mainly chargeable with the production of the glycosuria. But he dared not speak with any tone of decision on this point when he remembered the possibility that faulty tissue-building at large might have to be considered. Muscular and other tissues, as well as the liver, were the seats of formation of glycogen, and it appeared to him quite possible that a disturbance of nutrition in muscles, in spinal cord, and in liver might exist independently in each and give rise to glycosuria; while, on the other hand, a deep dystrophy might affect all at once. Several cases of angina pectoris in association with glycosuria had come under his knowledge, and he related one at length in which this conjunction existed. He thought it must be admitted that angina was no more an essential disease than glycosuria, and he recognized in it varieties of form and causation which ran in curiously parallel lines with those of glycosuria. Every one recognized the typical form of angina wherein degeneration of the heart-muscle played one part and arterial stress another; and every one would also further admit that disorder of innervation played an important part in disturbing the balance between the heart and the arteries. Glycosuria also might be a mark of disordered innervation, but in a preponderance of cases presenting glycosuria together with symptoms of angina the evidence of primary neurotic disturbance had not been strong. The subject of the occurrence of sugar in the urine of women in whom lactation had been suppressed was then discussed. The chemical reactions obtained in several cases appeared to correspond exactly with those which would be yielded by glucose, but their rapid evanescence had so far stood in the way of the obtaining any sufficient quantity of urine to afford opportunity of a complete investigation. The indication was apparently that the stoppage of the secretion of milk had determined a backward flow into the vessels of lactose in a quantity so large as to be represented by the appearance of a considerable quantity of glucose in the urine. M. Germain Sée had shown that, while milk taken in large doses produced diuresis and a very marked glycosuria, large doses of lactose caused a remarkable polyuria, but no glycosuria; why this should be was not clear. Not many years ago, when albumen was found in a patient's urine, he was supposed to have Bright's disease; and so now, it was very often the practice to speak of the existence of a small quantity of sugar in the urines as

justifying the use of the term diabetes. He thought that those who had studied the question most thoroughly would agree that this was a most unwise use of the term; unwise as bearing alike upon prognosis and treatment. If his views of the analysis of the causes of glycosuria were at all to be admitted, it followed that the treatment of a glycosuria which was subordinate must be involved in the treatment of the major part of the case. What he had put forward was rather analytical and suggestive than final or didactic, and he submitted for criticism, and proposed for investigation, certain associations of glycosuria which had presented themselves to him, and to which he had devoted a good deal of thought.

Dr. Pavy had found glycosuria frequently associated with obesity and with spareness, but he could not conclude that there was any absolute connection between them; in stout people, however, the disease seemed to be more amenable to management. He recognized a connection between glycosuria and enlargement of the liver; in many of the latter the disease was not of the ordinary form, for they possessed a certain amount of power to assimilate carbohydrates. A contracted granular kidney seemed to exert a restraining influence over the diabetic condition, and in cases where chronic interstitial nephritis developed in the course of a case of diabetes the same restrictions of diet were not necessary in order to keep the sugar under. He had observed that glycosuria was often accompanied by peripheral neuritis, especially after middle life; and in the gangrene of the toes, often associated with diabetic cases, there was an amount of pain out of proportion to the gangrenous condition; and, if glycosuria were really connected with nerve-disease, it was not strange to find angina pectoris or exophthalmic goitre associated with it. He agreed with Dr. Ord that it was unwise to confine our attention too exclusively to the liver. It was merely a matter of limitation of the assimilative capacity, for even in healthy people that capacity was not unlimited. In some diseases of the liver very little of the secreting structure was left, and yet these patients did not get diabetes, and that was one reason why a broader view should be taken as to the causation of this affection.

Dr. Ralfe also thought we should look beyond malassimilation by the liver. There were two great groups of cases presenting sugar in the urine,—1, acute cases coming on with a threatening aspect, in which there was a great drainage of water and sugar from the system and early and rapid emaciation; 2, a class of cases coming on more insidiously, associated with gout, syphilis, heredity or kidney mischief. It was of much slower duration, the patient was often stout, and the disease drifted on for years and years, and then was not, perhaps, of itself fatal. Dr. Purdy had shown him some tracings taken from cases of diabetes; there was marked tension of the vessels, like that seen in renal disease, but there was no albumen and no casts, nor was there reason to suspect gout. A Carlsbad physician had asserted that in all cases of diabetes the left ventricle of the heart was hypertrophied, and the vessel walls were thickened; the arterial tension later gave way to degeneration. It had been pointed out that in cases where suppression of lactation had occurred, crystals of lactose were found in the urine; it did not become converted into glucose.

Dr. Savage spoke as to the relations of diabetes with insanity. They were both directly hereditary, and it was common in insane people to get a history of diabetes in the parents; it was nevertheless uncommon to meet with sugar in the actively insane; those cases in which he had found sugar were puerperal. In many patients insanity had been observed to alternate with glycosuria; when they recovered from an attack of insanity the sugar had reappeared in the urine.

Dr. S. West said that Dr. Pavy had used increased arterial tension to explain the favorable course diabetes ran when granular kidney developed, but in exophthalmic goitre the tension was far from increased. He asked if diabetes could be produced by errors of diet. He quoted the case of a girl who, as assistant in a grocer's shop, ate a very large quantity of sugar, and died of acute diabetes.

Dr. Pavy disclaimed any intention of asserting that increased arterial tension caused diabetes; he thought rather it was due to a vaso-motor paralysis, a dilatation of vessels.

Sir William Roberts remarked on the extraordinary way diabetes complicated all sorts of morbid conditions. He thought that Dr. Pavy had touched nearer to the solution of the problem of diabetes than any physiologist now living. It was a disease most puzzling to study, and it had almost as many paradoxes as gout itself.

Dr. Mitchell Bruce referred to two classes of cases which had glycosuria in combination with gangrene,—1, stout middle-

aged people whose toes became gangrenous, and on whom opium exerted a remarkable influence; and, 2, patients with typical Raynaud's disease. He had seen a patient suffering from the latter affection in whom the disease was arrested by morphine, and he wondered whether in the liver in diabetes there might not be a condition of peripheral neuritis, for it certainly was not necessary that the disease of the nervous system should be central.

DR. MAGUIRE said that though gout might be the connecting link between some cases of granular kidney and glycosuria, yet there was a connection between diabetes and a certain degree of granular kidney in which no gouty element was present. When albuminuria occurred in diabetes it indicated a hardening of the kidney, and did not suggest a bad prognosis; on the contrary, it was extremely likely that the condition of the diabetic patient would improve. The kidney in these cases was not a typically contracted organ; it was dark red, the capsule was slightly adherent, the surface faintly granular, and the whole organ tougher.

DR. WILLIAMS asked what proportion of cases showed the presence of carbuncle, and also in what number of cases phthisis was observed.

DR. ORD, in reply, said he had not met at all frequently with either carbuncle or phthisis in glycosuria, but they were common in true diabetes. As to the connection with obesity, he had seen a good many cases in which glycosuria and obesity existed alone, but in thin patients there was always some other causative condition present. In one of his cases the patient had marked signs of granular kidney with hard arteries and plenty of casts; the sugar was very small in quantity, and could not have produced the disease of the kidney. He did not know whether diabetes could be produced by errors of diet.

---

### *THE PHYSIOLOGICAL ACTION OF THALLIN.*

This remedy, which at one time enjoyed considerable popularity, has fallen almost entirely into disuse. Some studies, however, have been recently undertaken by M. ALBERT ROBIN, who read them before the meeting of the Academy of Medicine at its session upon October 15, 1889, which are worthy of attention (*La Tribune Médicale*, October 17, 1889).

Robin's studies were especially directed towards determining the effect which this substance has upon tissue waste, and he concludes that thallin diminishes tissue waste especially of albuminous substances, and hence retards the elimination of uric acid, at the same time diminishing its production; while it increases the dissimilation of organic substances which contain sulphur and phosphorous. From these considerations Robin concludes that thallin is a poison to all organs which contain sulphur and phosphorous. It is, therefore, a poison for the nervous system, and should be rejected from therapeutics.

---

### *THE COMPARATIVE VALUE OF ANTIPYRIN, ANTIFEBRIN, AND PHENACETIN AS ANTIPYRETICS.*

In the *Practitioner* for October, 1889, SURGEON-MAJOR A. CROMBIE publishes notes of seven cases of intermittent fever, enteric fever, simple continued fever, and acute tuberculous pneumonia treated in the general hospital in Calcutta. As regards efficacy, Dr. Crombie believes that his observations indicate that antipyrin stands first, and that there is little to choose between antipyrin and phenacetin. As regards safety, however, he believes that the advantage lies with phenacetin, since he has never seen subnormal temperature result from the use of that drug, as is often the case with antipyrin and antifebrin, and that collapse never follows its employment, although he has seen this follow after the use of antipyrin. As regards rapidity of action, antipyrin, in his experience, probably on account of its solubility, comes first, antifebrin second, and phenacetin third. In the use of phenacetin the fall of temperature is very gradual, and the minimum is not reached for three or even five hours after the administration of the drug. The duration of antipyretic effect is more marked after the use of phenacetin than either of the others, while as regards certainty of action the same sequence is obtained as regards rapidity,—that is, antipyrin, antifebrin, phenacetin. As regards the unpleasant feature attending the use of these drugs in the climate of India, Dr. Crombie has found that phenacetin is followed by just as profound sweating as either antifebrin or antipyrin, and that this is the great drawback to the use of antipyretics.

Of course it is to be expected that the use of these drugs does not in any way shorten an attack of fever, and Dr. Crombie has found that in remittent fever they have no

abortive effect. The conditions in which antipyretics are indicated are, therefore, reduced to cases of hyperpyrexia, when the life of the patient is threatened by the height of the fever itself; then the temperature must be reduced at all costs, and in most cases the most rapid antipyretic is the best. In such cases Dr. Crombie recommends antipyrin; but when the temperature is not so high as to immediately of itself endanger life, it may nevertheless at 103° or upward lead to structural changes, especially in the muscular tissue of the heart, which constitute the great danger of long-continued pyrexia.

Here a reduction of temperature becomes imperative, and the question is now as to how it may be done most safely. In many cases this is best accomplished by means of the cold pack; but there are so many practical difficulties in carrying out such a practice that we are reduced to a choice of antipyretics: this now lies between phenacetin and antifebrin, though Dr. Crombie's opinion is that phenacetin will best answer the purpose. Especially as it possesses a certain amount of soporific power, so much so that in cases of slight feverishness, accompanied by insomnia and great restlessness, small doses of 3 or 4 grains of phenacetin—not sufficient even in India to produce perceptible diaphoresis—will insure a quiet, peaceful night, with no headache in the morning.

To conclude, then, Dr. Crombie maintains that in heat-apoplexy, sunstroke, and hyperpyrexia generally, antipyrin is indicated. In temperatures of 103° to 105°, antifebrin or phenacetin; in temperatures below 103° the preference should be given to phenacetin.

---

### *THE TREATMENT OF HEPATIC JAUNDICE BY HYPODERMIC INJECTIONS OF PILOCARPINE.*

WITKOWSKI considers pilocarpine as almost a specific in the treatment of jaundice. Two years ago, he writes (*Bulletin Général de Thérapeutique*, October 12, 1889) that he had under his care a patient affected with nephritis, complicated with biliary calculi, enlargement of the liver, jaundice, ascites, and dropsy of the legs. This patient was 45 years of age, and seven years previously, during the progress of a pregnancy, she commenced to suffer from pains in the right side, which greatly increased after delivery, and were accompanied by the development of jaundice. Treatment by Carlsbad waters produced somewhat of an improvement, but the jaundice as well as the hepatic colic returned regularly at each menstrual period. This condition continued to increase in severity for a period of four years, and when she first came under the care of the author her condition was extremely serious. Two injections of pilocarpine (half a syringeful of a two per cent. solution) produced notable relief. Hepatic colic disappeared completely, even although morphine had previously proved inefficacious and the liver became less painful to pressure. Under the influence of injections of ⅙ of a grain of pilocarpine, administered once or twice daily for three weeks, the jaundice, as well as the hepatic pain and the enlargement of the liver completely disappeared. For three years the patient remained perfectly well, and the author states that he has treated thirty analogous cases in a similar manner, in every instance with the most satisfactory results. He notes, however, that the treatment was inefficacious in cases of jaundice resulting from tumors of the liver, and he makes the statement that when in doubtful cases if pilocarpine, employed from ten to sixteen days, does not cause the disappearance of jaundice, the conclusion may be positively formed that the case is one of a malignant nature. He, therefore, recommends the use of pilocarpine in all cases of jaundice, provided the condition of the heart will permit.

---

### *SYZYGIUM JAMBOLANUM IN ARTIFICIAL DIABETES.*

In the *Lancet* for November 2, 1889, DR. C. GRAESER publishes an account of some experiments which he has recently made under the direction of Professor Binz in the Pharmacological Institute at Bonn. The experiments were with the extracts of the fruit of *Syzygium jambolanum* upon dogs rendered diabetic by phloridzin. This plant is a tree of the group of Eugenioideæ, subfamily Myrteæ, indigenous in tropical America, the West and East Indies, where its acid fruit is eaten. In Java the natives use the fruit for diarrhœa and diabetes, and since its introduction into Europe as jambul it has also been employed here in diabetes. In order to test its action, and to see whether and to what extent it was capable of influencing artificial diabetes, Dr. Graeser made some dogs diabetic by phloridzin, following the instructions of Von Mehring. By administering 38 to 74 grains daily of phlo-

ridzin to young dogs, in the proportion of 15 grains to every two pounds of weight, there ensues an excretion of sugar, lasting from twenty-four to thirty-six hours, amounting to 90 and 188 grains. At first Dr. Graeser gave the phloridzin in one dose, later in 15-grain doses every two or three hours, but without any notable difference in the amount of sugar excreted. In three experiments some diarrhœa was set up. In each case, whenever either before, with, or after the phloridzin, the animal was given extract of *Syzygium jambolanum*, the sugar excretion invariably fell, in some cases to about nine-tenths of the amount excreted under phloridzin alone, in all it was diminished to at least one-half. At the same time the period of excretion was curtailed. Thus, while with phloridzin alone the amount of sugar was from 5.89 to 12.45 grammes, the amount (with the same dose of phloridzin) under treatment by jambul was maximum 2.906, minimum 1.5 grammes. With a drug of which the action begins and ceases within a limited time, its antidote must also act in a definite time and in corresponding quantity, to be determined by experiment. So that if such a diminution in the excretion of sugar takes place, as related in these experiments,—viz., nine-tenths,—by the use of jambul, its more accurate employment might perhaps completely check this excretion. The conditions in diabetes mellitus are far better suited to test this, besides showing the agreement between phloridzin diabetes and the natural disease. This research is of special value, as showing that the *Syzygium jambolanum* may be used in diabetes mellitus in the human subject much more freely and in larger doses than hitherto, for in no direction were any effects observed which would contraindicate its use. There was no sign of any toxic action even in the dog which had a daily dose of jambul extract. In one experiment there occurred some diarrhœa, but this happened in later experiments with phloridzin alone, and was probably attributable to the latter. The extracts were partly made from the whole fruit, partly from the rind or kernel, and concentrated so that 100 grammes of fruit were represented by 16⅔ grammes of the kernel and 11⅔ grammes of the rind extract. The dose was 6 to 18 grammes daily. It is still uncertain whether the active principle is in the rind or the kernel; probably in both, but more in the former.

The results of three sets of observations may be thus summarized:

| | Grammes. | Grammes. | Grammes. |
|---|---|---|---|
| Sugar excreted with phloridzin | 12.5 | 10 | 10.5 |
| Sugar excreted with phloridzin and jambul | 2.1 | 1 | 1.5 |
| Percentage reduction in sugar | 80.8 | 84 | 85.7 |

### *THE AMOUNT OF FAT IN CONDENSED MILK.*

Attention has recently been called to the fact that examination of certain specimens of condensed milk prove that skimmed milk has been used, and the results of these analyses by the Health Department of the city of Brooklyn have been published in the annual report for the year 1888, which has just been issued. The method of analysis which was employed was based on the statement of Dr. Koenig that for every 100 parts of albuminous substance in cow's milk there is from 100 to 110 parts of fat, and that this relation must remain in condensed milk; or, in other words, the amount of fat must equal or exceed the amount of albuminous substance. It will be remembered that the albuminous substances of milk, or albuminoids, as they are frequently termed, are substances containing uniformly about 15.8 per cent. of nitrogen, and that they are of sufficiently stable character to withstand the process of evaporation without loss.

As by the evaporation of milk there is no loss of fat or albuminous substance, and as by the addition of pure sugar neither fat nor albuminous or other nitrogenous substance is added, the ratio of fat to the albuminoids must be the same in condensed milk as in the milk from which it is made, and on these facts is based the method which Koenig gives.

The conclusion seems, therefore, warranted, since numerous independent analyses have, in a general way, confirmed this statement, that if condensed milk, or milk condensed and preserved with pure sugar, is found to contain less fat than albuminoids, it may be concluded that it is skimmed, or made from milk deprived of cream to an extent at least proportional to the amount of albuminoids. The analysis of twenty-three samples of condensed milk, of various manufacturers, showed that samples from No. 3 to No. 19, inclusive, were made from milk the cream of which had been more or less removed.

The following table shows the result of the analyses:

*Tabular Statement of Analyses.*

| No. of sample. | Brand, etc. | Price. | Per cent. fat. | Per cent. albuminoids. | Per cent. water. | Per cent. ash. |
|---|---|---|---|---|---|---|
| 1 | Bottled Market Milk—Dairy A | 8 cents quart. | 4.07 | 3.37 | 87.08 | .69 |
| 2 | Bottled Market Milk—Dairy B | 8 cents quart. | 3.81 | 3.24 | 87.43 | .68 |
| 3 | Anglo-Swiss Condensed Milk | 1-pound can, 14 cents. | 5.88 | 7.03 | 23.07 | ..... |
| 4 | Anglo-Swiss Condensed Milk | 1-pound can, 14 cents. | 6.06 | 8.41 | 26.37 | 1.88 |
| 5 | Rose Brand | 1-pound can, 10 cents. | 7.16 | 8.32 | 26.63 | 1.80 |
| 6 | Rose Brand | 1-pound can, 10 cents. | 6.91 | 8.34 | ..... | ..... |
| 7 | Rigi Brand, Franco-Swiss Company | 1-pound can, 13 cents. | 0.22 | ..... | 25.08 | ..... |
| 8 | Rigi Brand, Franco-Swiss Company | 1-pound can, 13 cents. | 0.70 | 8.88 | 30.90 | 2.27 |
| 9 | Eagle Brand, N. Y. Condensed Milk Company | 1-pound can, 17 cents. | 6.04 | 8.21 | 23.69 | 1.67 |
| 10 | Eagle Brand, N. Y. Condensed Milk Company | 1-pound can, 17 cents. | 5.48 | 7.83 | ..... | ..... |
| 11 | Crown Brand | 1-pound can, 15 cents. | 6.81 | 7.89 | 30.00 | 1.89 |
| 12 | Crown Brand | 1-pound can, 15 cents. | 7.28 | 7.86 | ..... | ..... |
| 13 | Daisy Brand | 1-pound can, 12 cents. | 6.13 | 8.42 | 26.66 | 1.59 |
| 14 | Champion Brand | 1-pound can, 10 cents. | 6.10 | 8.41 | 24.58 | 1.88 |
| 15 | Champion Brand | 1-pound can, 10 cents. | 5.18 | 8.33 | ..... | ..... |
| 16 | Dime Brand | 12-ounce can, 10 cents. | 4.73 | 8.53 | 25.13 | 1.86 |
| 17 | Dime Brand | 12-ounce can, 10 cents. | 5.78 | 8.54 | ..... | ..... |
| 18 | Osprey Brand, S. W. Canfield | 1-pound can, 13 cents. | 6.51 | 9.02 | 26.57 | 1.91 |
| 19 | Osprey Brand, S. W. Canfield | 1-pound can, 13 cents. | 4.93 | 9.04 | ..... | ..... |
| 20 | Nestlé's Condensed Swiss Milk | 1-pound can, 16 cents. | 9.44 | 9.18 | 24.84 | 2.00 |
| 21 | Darling Brand, Michigan Condensed Milk Company | 1-pound can, 10 cents. | 8.77 | 8.79 | 24.84 | 1.81 |
| 22 | Borden's Condensed Milk, from wagon | ..... | 10.93 | 10.16 | 59.81 | 2.14 |
| 23 | S. W. Canfield's Condensed Milk, from wagon | ..... | 13.17 | 10.50 | 59.43 | 2.19 |

### *THE THERAPEUTIC VALUE OF SENNA-PODS.*

The paper of Dr. Macfarlane's as to the therapeutic action of senna-pods, which was alluded to in a previous number of the GAZETTE, has called forth an article upon the properties of senna-pods, by E. F. SALMON, who has published it in the *Pharmaceutical Journal and Transactions*, October 12, 1889. Mr. Salmon has found that the senna-pods are richer in cathartin, the active principle of senna, and which is a combination of cathartic and phosphoric acids with a magnesium and calcium base; while, in addition to cathartin, there is found in the leaves a volatile oil, which is absent in the pods. It is, therefore, on this account that the pods are free from nauseous taste, and are less likely than the leaves to cause griping pains. Treatment with alcohol removes the resinous and odorous principles to which the griping and nauseous taste are due, and will leave the cathartin unchanged. Cold water, on the other hand, readily dissolves the cathartin from the pod, while the cathartin from the leaf, owing to the impervious nature of its epidermis, is insoluble in cold water. Accordingly Mr. Salmon recommends cold water as the best menstruum for the preparation of a fluid extract. The first maceration should be for twenty-four hours; for the second, twelve is sufficient. For one pound of pods six pints of cold distilled water for the first and about three pints for the second maceration is a sufficient quantity to use. The liquors when strained off to be evaporated to thirteen fluidounces, and the usual four ounces (twenty-five per cent.) of spirit added, and, after standing for a few hours, to be filtered, and, if necessary, made up to sixteen fluidounces with distilled water. An almost black liquid will result, which is perfectly tasteless, and, in doses of from ½ to 2 fluidrachms, will almost invariably produce purgation.

---

### *THE TREATMENT OF ENDOMETRITIS.*

DR. BOCK, assistant physician to the Hôpital St. Pierre, in Brussels, gives in *La Clinique* some notes of a series of cases of endometritis in which very satisfactory results were obtained by the use of Canquoin's paste applied to the interior of the uterus. Dr. Bock does not give the strength of the preparation, and this is not always the same in various continental formularies. The paste is made by mixing 1 part of chloride of zinc with 2 parts, or, according to some formularies, with 1 part of flour, and enough water to enable the mass to be kneaded into the required form. For the uterus, of course, the form required was that of a stick of such a length as to reach from the fundus to the external os. A careful measurement had,

necessarily, to be previously taken with the sound, and the cavity washed out with a sublimate solution. The stick of Canquoin's paste was then introduced, and retained by means of a plug of cotton-wool. For three or four hours the patients sometimes suffered a certain amount of pain, but this was by no means unbearable, and frequently there was no pain at all. Vomiting was occasionally produced in very sensitive subjects, but in none of the fourteen cases in which this treatment was adopted was there any pyrexia or other complication. The patients were kept in bed for a few days, and warm antiseptic injections given. The caustic produced a slough to the depth of from two to five millimetres, which came away, sometimes revealing a perfect cast of the interior, and even showing the commencement of the Fallopian tubes. Dr. Bock considers that this treatment is suitable—where the cervical canal is sufficiently patent—in all cases of chronic simple endometritis, as well as in fungoid or hemorrhagic cases, and that it is peculiarly beneficial in cases of gonorrhœal origin, and he does not find that chronic or subacute inflammation of the uterine appendages forms any contraindication. His results agree with those of MM. Polaillon and Dumontpallier, who first recommended this treatment, and who were successful in thirty-eight out of forty cases in which they employed it.—*Lancet*, October 12, 1889.

---

### *THE ELIMINATION BY THE STOMACH OF MORPHINE INJECTED SUBCUTANEOUSLY.*

In a paper published by Dr. Alt in the *Berliner Klin. Wochenschrift*, No. 40, 1889, is found an explanation of the cause of the nausea and vomiting which in so many cases follow the subcutaneous administration of morphine, and a practical point is indicated for the relief of this complication in grave cases. The author has found that when morphine is injected subcutaneously it is eliminated through the mucous membrane of the stomach, and that this elimination commences two minutes after the injection, continues for about half an hour, and ceases at the end of fifty or sixty minutes. The nauseating effect of subcutaneous injections of morphine are attributable to this gastric elimination of the alkaloid, and the emetic effect coexists with the elimination of the morphine by the stomach, or, at least, never precedes it. Dr. Alt finds that washing out the stomach entirely prevents the production of nausea, a point which may be of value when rebellious vomiting follows the administration of this hypnotic. The quantity of morphine which is eliminated by the gastric mucous membrane is relatively large, and may amount to even half of the total amount injected beneath the skin. The author further finds that when washing out the stomach is performed after each injection of morphine, there is produced great attenuation in the toxic effects of this alkaloid, and that then doses, which, under other circumstances, would be inevitably fatal, are found to be administered without danger. It should be mentioned that, although the author's conclusions are deduced from experimental results obtained upon dogs, similar experiments made upon man sufficed to affirm the reliability of these conclusions.

---

### *THE CURE OF HEMORRHOIDS BY EXCISION AND CLOSURE WITH THE BURIED ANIMAL SUTURE.*

At the recent meeting of the New York State Medical Association Dr. H. O. Marcy, of Boston, in his paper on this subject, said that the recent discussion of the surgical treatment of hemorrhoids, published in the *New York Medical Journal* (October 26, 1889), evoked by a late paper of Mr. Whitehead's, of Manchester, England, had been both timely and interesting. The medication of wounds, and treatment based upon aseptic measures, marked the present as an era of surgical evolution, to which surgery of the rectum should be no exception. Few of the minor surgical diseases caused so much suffering and gave to the general practitioner such constant repetition of complaints as those of the rectum, and, in return for services rendered, no class of patients were more appreciative and grateful. The teaching of the text-books, with few exceptions, offered very little improvement upon the methods of the past in the treatment of the diseases of the rectum. The advocates of the ligature perhaps equalled those who claimed superior advantages to be derived from the use of the clamp and the cautery. Although a practical cure was often obtained from the use of either, he could not but believe that both were surgically defective and should be relegated to history. While it might be conceded that the general practi-

tionêr was in a large majority of cases familiar with the pathological conditions pertaining to the hemorrhoidal diseases, still it might be well to be reminded that the blood was carried with the arterial impulse directly to the part through short, branching vessels, and in turn received from the capillaries into an extraordinary net-work of veins, which emptied through the inferior mesenteric into the portal system. These veins were entirely without valves. Boerhaave and Morgagni had pointed out these anatomical peculiarities, and remarked upon the horizontal position in the weight of the blood-column. They adduced this as a reason why quadrupeds were not subject to diseases of this nature. He took pleasure in calling attention to a most interesting and learned article on this subject by Dr. Bodenhamer (*New York Medical Journal*, January 12, 1889, p. 39). It seemed, however, a just criticism that the weight of the venous column alone acted only in a very subordinate degree as a predisposing cause, although manifestly an important factor after the blood-current becomes gradually retarded in the oftentimes enormously dilated hemorrhoidal veins.

Were the cause to be found in this peculiar distribution of the portal circulation, the upright position of man would make this condition the rule instead of the exception, and it would be extraordinary to find the varicosities limited to the hemorrhoidal plexuses and lying almost entirely external to the sphincter muscle. Oftentimes, however, after the pathological conditions became well established, the current through the ectasic vessels was so greatly retarded by the weight of the blood-column in the erect position that most patients learned to seek relief by change of posture. Anatomists emphasized the fact that in the normal condition many of the hemorrhoidal veins were of comparatively large size. In relation to the surrounding pelvic organs these veins occupied a dependent position, and their only support was derived from a loose net-work of connective tissue. It would be apparent, then, that the anatomy of these thin-walled vessels, their relation to the surrounding parts, and their physiological function, furnished, as it were, a predisposing cause of disease. To this, however, probably might be added a certain condition of weak circulation so often found in persons with thin-walled veins of the lower extremities. It had long been recognized that the varicosities of the hemorrhoidal vessels, which were probably wanting in the lower animals and were comparatively rare in the savage races, became a more and more constant factor in the sedentary occupations of modern civilization. A great variety of pelvic diseases in the female and the genito-urinary diseases in the male, complicated with constriction, were active causes of rectal disease. The rectum might be regarded as a convenient cess-pool for the reception of the waste and *débris* of the alimentary canal, which poured into it in a more or less fluid state. The curves of the lower bowel, from the sigmoid flexure downward, were an evident design, in part at least, to vary the support of the weight of the column and admirably adapted to equalize the pressure. When the rectal contents remained sufficiently soft to produce equable pressure, the circulation was comparatively little disturbed, and defecation was accomplished with very little muscular strain. If, however, there should be retention of the contents, with absorption of the fluid portion going on until the moulding process became difficult, the reverse would be true. The overloaded rectum produced pressure upon the venous return current, causing a train of reflex nervous symptoms, and the hyperæsthetic state followed. Although the pathological condition above described produced by far the larger part of the suffering ascribed to so-called "piles," we must not forget that there were other diseased conditions which might be confounded therewith. Small fleshy masses about the folds of the anus, sometimes called condylomata, were very easy to distinguish. These had nothing to do with the hemorrhoidal veins or mucous membrane, and might be the result of friction or erosion arising from a variety of causes. The so-called villous tumor of the rectum was, however, of sufficient frequency to be taken into consideration. It was not unlike the villous growths of the bladder or other mucous surfaces. This extra vascularity only revealed its presence because of the hemorrhage, and was apt to be diagnosticated as a bleeding pile. The soft mucous polypus of the rectum was an adenomatous structure of close relationship to the villous growth, and was sufficiently often the cause of suffering to be borne in mind.

Mr. Whitehead, of Manchester, had emphasized the pathological conditions upon which the author had touched, and insisted that the extraordinary dilatation which the veins often underwent could only be learned by dissection upon the living subject. The author's own attention had been called to the

condition many years ago, when he found how very commonly the veins of the rectum became enormously dilated in a female who had suffered laceration of the perineum. It was probable that the changes incident upon retention of the rectal contents and other causes acted to bring about dilatation of the vessels rather than the superincumbent weight of the portal column of blood. When the venous plexus of hemorrhoidal vessels had become pronouncedly varicosed, they had as a covering the lax submucous tissue of the rectum close to the anus, and when put on tension were protruded as a ring of transverse rugæ around the anal aperture. Certain of the rugæ were developed into rounded protuberances, and sometimes even into fungoid tumors of considerable size. The veins sometimes ruptured into the connective tissue and changes followed which resulted in tumors of various sizes, color, and density, called "external piles." The strain in defecation or gentle pressure by the finger from above downward would frequently cause soft, fleshy, exquisitely sensitive grape-like masses to protrude,—"internal piles." The mucous membrane covering these would frequently be found congested and abraded so that more or less continuous hemorrhage ensued.

The method for the cure of hemorrhoids by the use of the ligature applied with slight modifications of detail had been considered the safest, surest, and most manageable procedure. The projecting tumors, having been well drawn down, were usually transfixed with a curved needle, armed with a double ligature; this being tied firmly, a portion of the constricted mass was excised. In this way all the hemorrhoidal tumors were ligated, and the mass was then returned within the sphincter. This was the favorite operation of the late Dr. Van Buren and his followers, and had at present in Mr. Allingham, the famous English surgeon, its most distinguished advocate. The use of the ligature, applied to cause necrosis of tissue, and then allowed to remain in the wound, was open to the same general objections which had caused its abandonment. When applied in this manner to the constriction of the large vessels, sloughing necessarily supervened, which meant an infected wound, exposing the patient to the same dangers, although, perhaps, of less degree, as infection in any other part of the body.

That this was not hypothetical criticism the writer thought there was abundant proof. The stoutest advocates of the ligature admitted that abscesses, general septic poisoning, and other dangers, as secondary hemorrhage, were not wanting in the experience of the most careful and practical surgeons. The use of the clamp and cautery came into vogue and had been specially popularized by the distinguished surgeon, Mr. H. Smith, of London. This procedure the author had early adopted in his own work. It had advantages over the ligature in that the primary wound was aseptic. Then, by the time the slough was ready for separation, the subjacent tissues would be fairly well protected by the abundant proliferation of granulation tissue. In his own experience, the suffering caused by the burning was objectionable, while all wounds caused by burning were invariably slow of repair. He was of the opinion that the results obtained from the use of the cautery were generally of a more satisfactory character than from the ligature. Secondary hemorrhages were reported to have occurred, and it was claimed that contraction was not uncommon after cauterization. It might be accepted as a fact that the use of the cautery, except in certain conditions in uterine cancer, had been relegated to the past. Even here it found fewer advocates than formerly. Certainly bleeding was to be controlled without its use, and it might be questioned whether deep burning was safer than deep cutting in any disease. Then various crushing instruments had been devised, to be used, however, with or without the ligature, for the purpose of producing more rapid necrosis of the tissue involved. The advantage alleged for the operation of crushing was an avoidance of hemorrhage; but, on the other hand, some operators reported that hemorrhage had followed crushing. Theoretically this method seemed to offer little, if any, advantage over the ligature, therefore he had discarded it without trial. There remained something to be said of the cure of hemorrhoids by the chemical action of certain medicaments injected into the parts. Few of the modern methods had received more speedy attention than this, the so-called "carbolic-acid treatment of piles." It had much to warrant its acceptance. Carbolic acid of itself was at that time believed to be the chief of antiseptics, rapidly coagulating the blood and the albuminoids. It had been variously combined with morphine, cocaine, etc., and little pain had followed its use, and patients and physicians had been alike enthusiastic. At present, however, it appeared that the consensus of surgical opinion was that the re-

sult was in a large degree disappointing. When a considerable proportion of acid was used, causing necrosis of tissue, no matter how carefully injected, the tissues not infrequently which it was desirable to remove failed to be acted on, while those which should have been retained were destroyed by sloughing. The explanation was that the fluid introduced into the loose margin of the connective tissue escaped to the extraneous parts. When weaker proportions were used, even after many repetitions of the injections, the hemorrhoidal vessels remained comparatively unchanged. The method of cure by injection was also sometimes objectionable and even dangerous. The writer had seen a young and healthy man made seriously ill, with considerable fever and general septic poisoning supervening upon the injection of hemorrhoids at the hands of one of our most capable men. The connective tissue around the anus remained for some days œdematous, reddened, and painful. There now remained for discussion the operation of Mr. Whitehead, of cure by excision. This the author of the paper did not hesitate to accept as a step in advance of all surgical procedures previously discussed. It had been demonstrated that the vessels were frequently so deformed as to fail entirely in the original purpose for which they were designed, and the end sought to be obtained by all previous methods had been their destruction and removal. The real objection to destruction had been the fear of hemorrhage, and, as a means to obviate this, the ligature and clamp and the cautery were devised. Mr. Whitehead had clearly shown that his method of dissection was safe, that the hemorrhage was not excessive, and that a rapid cure resulted. The method was certainly scientific. By a clean dissection the parts which it was desirable to eliminate were removed. The free edges of the divided tissues were then stitched together, primary union generally resulting. Mr. Whitehead's method was best given in his own words :

"By the use of scissors and dissecting forceps the mucous membrane is divided at its junction with the skin around the entire circumference of the bowel, every irregularity of the skin being carefully followed. The vessels are then exposed by a rapid dissection of the mucous membrane, and the attached hemorrhoids, thus separated from the submucous bed on which they rest, are pulled bodily down. Each individual point is brought below the margin of the skin. The mucous membrane below the hemorrhoids is now divided transversely in successive stages, and the free margin and the severed margin above are stitched, as soon as divided, to the free margin of the skin below by a suitable number of sutures. The complete ring of pile-bearing mucous membrane is thus removed."

Mr. Whitehead very wisely emphasized thoroughly paralyzing the sphincter by digital stretching. The bleeding vessels, which were small and easily seized, were immediately twisted upon division. The sutures were interrupted and of braided silk. Mr. Whitehead's operation had been, of course, variously criticised, but, as that gentleman could refer to a record of some three hundred cases in which the operation had been, "to the best of his knowledge and belief," a perfect and permanent cure, there was enough upon which to base a conclusion. Some ten years ago Dr. Marcy said he had operated in two cases of prolapse of the rectum by first, before resection, entirely encircling the prolapsed part upon a row of continuous double sutures. From the excellent result following these operations he had been led to apply the same method to the base of a ring of hemorrhoidal vessels before resection. For some years this method of suturing had entirely superseded all others in his practice, and had been repeatedly demonstrated to members of the profession. He now offered his method for consideration on account of its great safety and excellent result, as presenting advantages in the treatment of a troublesome affection. Care should be taken previous to the operation to have the large intestines thoroughly emptied, usually by an active cathartic, supplemented by a copious injection given a few hours before the operation. The patient was to be placed in the lithotomy position, the limbs suitably supported, and the parts to be thoroughly cleansed by a sublimate solution as usual. The digital dilatation of the sphincter was carefully made until the muscle was paralyzed. The rectum was then washed with sublimate solution, care being taken that none of it was allowed to remain. A pledget of wool, into which iodoform was to be freely dusted, was passed into the rectum, and the subsequent stages of the operation were carried out under irrigation with sublimate solution. Along the line of the junction of the mucous membrane with the skin, either with a knife or scissors, division was made from a central line, posteriorly, from below upward on both sides to

the median line above. With a little care this division could be made without injury to the plexus of vessels. The loose connective-tissue fascia was usually separated by the finger or a blunt instrument, cutting any connective-tissue bands which might appear. The mucous membrane above the plexus should be then divided transversely in a somewhat similar manner. The deformed hemorrhoidal plexus was then separated from its surroundings except at its base. The needle, with eye at point, threaded with tendon, was carried posteriorly behind the mass, unthreaded, and rethreaded with the opposite end and withdrawn, the stitch resembling that taken by the shoemaker, drawing the waxed end of his thread in opposite directions through the hole made with the awl. In this way the entire base was encircled by a line of deep double continuous sutures. This was the stitch the author had for many years used in the coaptation of deep parts by the buried suture, as, for example, in rupture of the perineum and constricting pedicles of abdominal tumors. In this way it was impossible for any tissue to escape. The stitches were not to be drawn too tight, since they were intended merely to control hemorrhage, and not to produce necrosis of the parts they inclosed. Then with scissors the hemorrhoidal plexus, just above the line of sutures, was to be dissected away; the mucous membrane to be then stitched by continous suture to the line of division, either with an over-and-over stitch, or with a running blind stitch, taken from side to side from within outward. The paper concluded with a description of the usual dressings and after-treatment. If the operation was properly done, it was generally followed by primary union. The patient was remarkably free from pain, and the process went on without trouble. The patient need not keep his bed. The bowels should be moved the third or fourth day. By the method above described the author constricted the blood-vessels before division, insuring a much more accurate readjustment and closure of the parts, while the buried animal sutures manifestly presented advantages over interrupted silk sutures, which latter must be thrown off by suppuration.

The author then exhibited specimens of prepared animal tendons, which he advocated as in every way to be preferred in all cases where deep or buried sutures were indicated. He had given *carte blanche* to a friend in Australia for kangaroo tendon.

### *THE TREATMENT OF SYPHILIS BY QUININE AND MERCURIAL INJECTIONS.*

DENENICKI, according to the *Bulletin Général de Thérapeutique* for October 15, 1889, has treated one hundred and seventy-eight cases of syphilis by this method, reporting eight observations in detail in which quinine seemed to occasion the greatest benefit, while in four this remedy was without influence. The author believes that quinine is capable of rendering great service in cases of syphilis where the patients are either greatly reduced or where the temperature and weight of the patients are subject to great oscillation. In other cases quinine is useless. He gives from 15 to 22 grains a day of quinine, and in syphilitic cases he claims that, if the cases are properly selected, under the influence of this amount the general state and appetite are improved, the weight of the body increases, the temperature decreases. Ulcers clean off and commence to cicatrize: and if stomatitis and ptyalism have been present, they will diminish. If the administration of quinine is interrupted, the previous condition of the patients will be regained. He adds that in cases where quinine is used with mercury, it is necessary to increase the amount of the latter drug given daily. Finally, he states, that the cases in which he found improvement following the administration of quinine were not due to any complication with the malarial element.

---

### *ARSENICAL PARALYSIS.*

In an Inaugural Dissertation presented to the medical faculty of Breslau, DR. CONRAD ALEXANDER publishes an experimental essay as to the mode of production of paralysis in poisoning by arsenic. He formulates his conclusions as follows:

*First.*—That the symptoms in cases of arsenical poisoning in man point to the fact that the symptoms are attributable to the action of the poison on the peripheral nerves and muscles, and are due to the production of multiple neuritis.

*Second.*—It is possible in rabbits in certain instances to produce permanent paralysis with arsenic, which is especially located in the posterior limbs, and which is accompanied by a high degree of atrophy of the muscles.

*Third.*—In paralyzed animals degenerated and atrophied nerve-fibres are to be found in the small muscular nerve-branches and in the nerves of the subcutaneous connective tissue,

accompanied by swelling of, and hemorrhage into, the perineurium. The spinal cord of animals so paralyzed is perfectly normal.

*Fourth.*—Paralysis in these animals, therefore, is dependent upon degeneration and atrophy of the peripheral nerves and muscles.

*Fifth.*—Experimental observations seem to warrant the assumption that arsenical paralysis in man is similarly produced.

*Sixth.*—The muscular atrophy created in animals poisoned with arsenic is not of neurotic origin, but is entirely independent of the nervous system.

*Seventh.*—The muscular atrophy in animals poisoned by arsenic, in the case of rabbits, is not a fatty degeneration, but a coagulation necrosis, which is ordinarily accompanied by the formation of calcareous deposits.

*Eighth.*—Degeneration of nerves and muscles is, in all cases of paralysis occurring in animals poisoned with arsenic, probably due to the production of disturbed action in the capillaries of the nerves and muscles.

---

### *EUCALYPTUS IN SCARLET FEVER.*

A safe and non-disagreeable antiseptic for use in cases of infectious diseases and offensive cancerous ulcers, and one that will be readily tolerated by the patient is a great desideratum. Carbolic acid, as well as iodoform, are both offensive and poisonous, while either of these properties applies to the great majority of all the antiseptics in common use. Oil of eucalyptus is a strong antiseptic, which may be used freely without danger to the patient, and its use is not attended by any disagreeable odor or other unpleasantness. In the *British Medical Journal* for October 26, 1889, MR. J. BRENDON CURGENVEN writes that he has recently used it in the treatment of scarlet fever with much success, and that he has recently employed it in four cases, each of which occurred in a family where there were other children who had not had the disease, and in which cases the fever disappeared in a few days, and at the end of a week or ten days the patient joined the rest of the family without communicating the disease to any of them; further, there was not any general desquamation, it occurring only in those parts where the rash was thickest. The writer's method was to administer the oil internally in 1- to 4-drop doses every four hours in an emulsion, as it is then more equally diffused through the menstruum and is better borne by the stomach. A much more important part of the treatment, in our opinion, is the recommendation of the author to use with the spray-diffuser the eucalyptus disinfectant around the bed at frequent intervals, sprinkling it on the floor of the room or evaporating it on a hot fire-shovel; and, more important still, that the patient be rubbed all over the body with this oil, not allowing any portion of the skin to escape. This is to be done night and morning for the first few days, and then at night till ten days have gone by, the head and hair being subjected to the same treatment every three days, and at the end of the week a bath of the eucalyptus. The eucalyptus soap may be used every other night in addition to the other modes of employment of the eucalyptus. Mr. Curgenven states that the free use of it was unattended by any ill effects in any of his patients or their attendants, and he believes firmly that it has the power of destroying the septic germs of scarlet fever and other contagious diseases.

---

### *THE THERAPEUTIC PROPERTIES OF INFUSIONS OF YELLOW RASPBERRY.*

In the north of Russia the infusion of yellow raspberry (*Rufus chamarmorus*) enjoys considerable popular repute as an excellent soporific, an infusion of the flowers and leaves being used for this purpose. DR. FRINKOWSKY was the first to call attention to the diuretic effects of this plant, and PROFESSOR POPOW has spoken in the highest terms of the diuretic effects produced by decoctions and extracts prepared from the flowers of the fresh plant. He has succeeded in extracting an acid, in the form of a colorless powder, which is slightly soluble in water and very soluble in alcohol; this acid with bases forms crystalline salts which are very soluble in water, and is to be regarded as the active principle of that plan. It is stated that this substance acts on the kidneys without influencing the beat of the heart. V. BOUCHOUEFF (*Bulletin Général de Thérapeutique*) has recently conducted, in one of the medical clinics at St. Petersburg, a series of experiments, with the object of determining the clinical value of the yellow raspberry as a diuretic, making use of an infusion prepared with 16 parts of the leaves to 180 parts of boiling water, of this 5 or 6 teaspoonfuls being taken each day. The patients to whom this remedy was given were illustrations of various forms of nephritis, cirrhosis of the liver, cardiac affections, cancer of the stomach, chloro-anæmia with œdema, hysteri-

cal epilepsy with palpitations of the heart, etc. In only one case of all under the author's care did this drug fail to produce a favorable increase in the diuresis. The observations, however, are not complete enough, and not sufficiently well classified, to positively state the status of this remedy. It would seem, however, that the writer has obtained results which are sufficiently important to direct further attention to this plant.

## Reviews.

OPHTHALMOLOGY AND OPHTHALMOSCOPY FOR PRACTITIONERS AND STUDENTS OF MEDICINE. By Dr. Hermann Schmidt-Rimpler. Translated from the third German revised edition. Edited by D. B. St. John Roosa, M.D., LL.D. One hundred and eighty-three wood-cuts and three colored plates.
New York: William Wood & Co., 1889.

A work on ophthalmology from the pen of the distinguished Marburg professor, translated by a competent hand from the original, and edited by so able an exponent of the practice of eye surgery as D. B. St. John Roosa, cannot fail to find acceptable place in the libraries of all physicians to whom the acquisition of the best books upon their art has become a necessity. The book is divided into four parts. The first comprises general observations on the examination of the eye, the errors of refraction and accommodation, and amblyopia and amaurosis. Almost the opening sentence of this section calls for comment and commendation: "As in the clinics for internal medicine, great importance is attached to taking the exact present condition, in which the entire body is subjected to inspection in a certain order, so that we may avoid overlooking or neglecting any symptom, so likewise a regular sequence must be carried out in examination of the eye." This timely advice should be firmly impressed upon every student who is about to enter the field of ophthalmology; and it is also, we take it, not without value to those who have already passed the gates and are active workers in the vineyard. A systematic examination of people who come because of failure of eyesight, or visible inflammation of the eye itself, will often lead to information so valuable in the conduction of the case itself from the ophthalmological stand-point, or to a proper classification of the disorder in its relation to general systemic disturbance, that great benefit will accrue to the patient and credit to the surgeon.

After a series of remarks of a general character on the examination and treatment of the eye, the author devotes a chapter to the errors of refraction and accommodation. This is eminently satisfactory. It is not burdened with unnecessary formulæ, because, as the author quaintly puts it, "The widespread antipathy of physicians to mathematics—it is difficult to determine whether this is congenital or acquired"—has caused him to reduce the calculations to such as are essential, without at all too much abridging the matter and producing obscurity. In the discussion of myopia it is stated that a large number of myopes do not really have diseased eyes, and that, apart from the absence of farsight, even extremely short-sighted eyes may be quite normal in their functions. The editor of the book is not in accord with this statement, and inserts a modifying paragraph, in which he observes that in the large majority of cases myopia is essentially a disease. It is just such paragraphs, dotted through the entire work, that have made the value of Roosa as an editor so prominent a feature. He need not have apologetically trusted that the additions would not mar the symmetry of the original, when, quite the contrary, they cover up the occasional blemishes which have crept into this otherwise valuable work. In the etiology of myopia it is pointed out that this error of refraction is congenital only in the most exceptional cases; and the observations of the late Dr. Ely, who was probably the first to demonstrate that hypermetropia is the usual refractive condition in the eyes of newly born, are brought forward. In this connection we wish that the statistical work of Randall had received place. In discussing the symptoms of ametropia, especially of hypermetropia, the author indicates that certain forms of headaches, neuralgias, and migraines are dependent upon the asthenopia induced by the refractive condition, but is evidently disinclined to attribute to it the production of such constitutional diseases as chorea and epilepsy, and the editor punctuates the reluctance of the author, and warns against the tendency of certain enthusiasts in the treatment of neuroses by fitting glasses. Astigmatism, its correction and treatment, are somewhat briefly discussed, and the statement made that the correcting lenses found after atropinization are often discarded by the patient on the restoration of accommodation. This may be true in some of the higher grades of astigmatism, and has led certain ophthalmologists to order partially cor-

recting cylindrical lenses, a practice that it seems to us is not followed by the best results,—a practice, moreover, which the judicious editor of the work distinctly deprecates.

The chapter on amblyopia and amaurosis, including the discussion of the visual field, light and color sense, together with the special forms of amblyopia and hemianopsia, is satisfactory, sound, and scientific. We regret, however, that in the description of hemianopsia, the important relations of Wernicke's symptom are not more definitely developed, and that the work of Seguin in our own country has not received some notice. We are not a little surprised to observe in the account of the functional disorders of the retina, that Dr. Schmidt-Rimpler uses, and Dr. Roosa permits him to use, the terms "hemeralopia" as synonymous with night-blindness, and "nyctalopia" as synonymous with day-blindness. In point of fact, as we know since the researches of Dr. Greenhill and Professor Tweedy, the true meaning of the words, according to their derivation and classical use, is the exact reverse of this, nyctalopia being derived from the Greek word *νυκτάλωψ*, signifying literally "night-blind-eye;" hemeralopia is the opposite condition, signifying an inability to see during the day. Owing to the fact that these terms have been so commonly misapplied, it seems wise to adopt the suggestion of the late Dr. Mackenzie, and dispense with them altogether. In the pages devoted to simulated amaurosis, among the many tests which are given for its detection, a reference to the simple and ingenious method devised by Harlan of this city would have been acceptable.

Part II. deals with ophthalmoscopy, ophthalmoscopic appearances in the healthy eye, and the diseases of the optic nerve, retina, choroid, and vitreous body. The theory of the ophthalmoscope, various forms of ophthalmoscopes, and the methods of ophthalmoscopic examination are clearly described, and keratoscopy, although the author thinks that retinoscopy is the more correct term, is sufficiently demonstrated for practical application. A clear and eminently satisfactory account of the normal and abnormal ophthalmoscopic appearances follows.

In the chapter on diseases of the optic nerve, although a section is devoted to hyperæmia of its intraocular end, the author does not fail to show that the diagnosis is by no means an easy one on account of the great variety of color which the end of the optic nerve presents. The inaccuracy of the opinion that the circulation of blood in the optic papilla gives any representation of the cerebral circulation is pointed out, and the editor has added a note showing the uncertain value of judging of the condition of insane patients by pathological changes in the optic nerve. Disorders of the optic nerve are divided into papillitis (choked disk) or disease of the optic papilla proper; neuro-retinitis (neuritis descendens) where the process is not confined to the papilla, but also markedly implicates the retina; true inflammation of the optic nerve; and the various forms of atrophy. Papillitis or choked disk is again divided into two forms, and the various explanations of its occurrence are described with sufficient detail, the author leaning in favor of the so-called lymph-space or transportation theory of its production.

The chapter on diseases of the retina is very satisfactory, the various clinical groups being clearly and carefully described. On the other hand, the chapter on diseases of the choroid is not as strong as some other sections of this work. It is perfectly true, as the author says, that the causes of choroiditis remain obscure, but we do not believe that it is wise to dismiss them in a paragraph of not more than six lines. This criticism does not only apply to the book before us, but is one that we have heard over and over again expressed by students when studying some of the best productions from ophthalmic surgeons. Following these pages, after treating of diseases of the vitreous body, there are a number of colored illustrations representing supposed characteristic appearances in disease of the fundus oculi. They are neither better nor worse than such illustrations are as they usually appear in works on ophthalmology.

Part III. treats of glaucoma, ophthalmalacia, diseases of the lens, conjunctiva, cornea, sclera, iris, the ciliary body, sympathetic ophthalmia, and suppurative choroiditis. Glaucoma receives very satisfactory treatment, and the pathological anatomy and theory of the nature of glaucoma, with full reference to both ancient and modern work in this department, are carefully elaborated. The views of the author in regard to the comparative value of sclerotomy and iridectomy in the treatment of this disease are contained in the words: "It cannot be denied that it (sclerotomy) would be preferable to iridectomy, if it possessed the same curative effects." A complete but not unnecessarily lengthy dis-

cussion of cataract, its formation and treatment, follows. The medical treatment of immature, or rather of incipient, cataract should probably receive more attention in works on ophthalmology than it does, if the results of some recent publications upon the subject are to receive credence. We think so much of cataract as a disease removable only by operation, that we neglect, perhaps, the somewhat long period of its slow formation, when possibly its growth may be retarded, and certainly its subjects made more comfortable, by judicious medication.

The ordinary clinical distinction of the various forms of conjunctivitis are sharply drawn, and Dr. Schmidt-Rimpler considers it of great practical importance that a clinical difference between follicular conjunctivitis and trachoma should be emphasized. In describing Fruehjahar's catarrh, the author states that only children and young people suffer. We think this is a mistake, Emmert having recorded instances among adults. In the discussion of ophthalmia neonatorum, the editor has introduced a caution, in spite of the high authority of the author, against the use of the nitrate of silver in the earlier periods of this disease. Diseases of the cornea receive elaborate consideration, the treatment is sound, and the descriptions satisfactory. The same remarks apply to the discussion of the diseases of the sclera and iris, the section closing with a chapter on sympathetic ophthalmia and purulent choroiditis. In regard to the transmission of the inflammation from one eye to another, the author thinks that the diseased ciliary nerves in the eye first affected exert a reflex influence on the vessels of the other eye, although he does not deny that direct transmission of the inflammation from one eye to the other may go through the optic nerve or its sheath.

Part IV. concludes the volume with an account of diseases of the ocular muscles, orbits, eyelids, and lachrymal apparatus. We turn with interest to that portion devoted to the management of insufficiencies of the ocular muscles which, in these modern days, have been made responsible for so many neurotic conditions. In it, however, as the editor points out, there is no hint of the doctrine of the great influence upon the general condition of imperfectly-balanced ocular muscles, —a doctrine which Dr. Roosa believes has not yet obtained standing, except among those who are overcredulous as to its immense importance in relation to systemic disturbance. We think that this judgment is a sound one, and that there is a danger among certain ophthalmic surgeons of performing indiscriminate tenotomies, to the detriment of an otherwise important surgical procedure, just as a similar danger is present to gynæcologists in cutting out tubes and ovaries whose crime is not sufficient to justify the scriptural injunction in regard to the hand that offended. The volume closes with diseases of the orbit, lids, and the lachrymal apparatus. The latter chapter is practical enough, but singularly short,—shorter, perhaps, than the very troublesome disorders of this system deserve.

In these days, when the market is stocked with question-books, short manuals, quiz compends, and similar unnecessary specimens of book-making, it is a great gratification to read this thoroughly scientific treatise, now in its third edition, and which has been rendered all the more acceptable by the judicious notes of the editor.

G. E. DE S.

THE PRACTICE OF PHARMACY. Second edition, enlarged and thoroughly revised. By Joseph Remington, Ph.M., F.C.S. With over six hundred illustrations.

Philadelphia: J. B. Lippincott Company, 1889.

It gives us great pleasure to announce the appearance of the second edition of the book of Professor Remington, a work which we believe to be the best of its kind in any language, although, perhaps, as we are not deeply read in Russian, Thibetan, or Chinese literature, we have no right to an opinion in this regard.

Those of our readers who live in the country or in town, who are forced or desire to dispense their own medicines, should certainly supply themselves with a copy of the book. Our many readers who write prescriptions ought to borrow the work from some one at least long enough to look over the chapter upon prescription-writing, in which is held up to the public gaze a reproduction of numerous prescriptions illegible and deadly, crooked and uncanny, the product, it is said, of the brains and pens of successful, and even of learned men. Certainly some doctors, famous, world-renowned, sin against patient and apothecary in their methods of writing prescriptions; but we are afraid that they sin not through ignorance, and that even the flood of light thrown upon their doings by Professor Remington will be of no avail. Blind are they through wilfulness or carelessness, and not through want of light or power of eyesight. Perhaps a term

in the penitentiary would make some of them open their eyes; and we are not sure that they do not deserve this fate.

ESSAY ON MEDICAL PNEUMATOLOGY: A PHYSIOLOGICAL, CLINICAL, AND THERAPEUTIC INVESTIGATION OF THE GASES. By J. N. Demarquay. Translated, with notes, additions, and omissions, by Samuel S. Wallian, A.M., M.D.
Philadelphia and London: F. A. Davis, 1889.

Some years ago the writer of this notice received a most elaborate invitation, printed in gold and glory, from one of the New Jersey County Medical Societies to a banquet at Atlantic City. It so happened that the day was such a busy one that no time for any lunch could be obtained; but the thought of the invitation buoyed up the sinking frame through the long, dreary miles of Jersey sand and the appetite-sharpening meadows of Jersey shore; but, alas! when we were asked to draw to the table and help ourselves there was nothing on the cloth but a little bit of cake for each guest about three fingers' breadth and a teaspoonful of ice-cream; waiters galore, indeed, but nothing for them to hand. So soon as escape from the room was possible, the disappointment of the hour was atoned for in a near-by restaurant, but the memory has haunted us ever since, and was recalled most forcibly by the perusal of this volume. We were hungry for information concerning oxygen, that much-belauded article, "the source of life" to persons, and assuredly a source of gold to the "knowing ones." We have long wished to grapple with it scientifically, and learn the secrets of its physiology. Hungry, therefore, we were, but the book offers as barren a feast as did the hospitality of our New Jersey brethren. We have looked through the volume very carefully, but there is absolutely nothing in it of any scientific value. Talk there is about magnetized and demagnetized oxygen, seemingly most learned reports are there of cases of various and diverse character which have been cured by the inhalation or local application of oxygen and other gases. Poetically does it speak of oxygen as "the great modifier of the blood," as "the soil from which all the organs are developed," and as "the source of animal heat and of the secretions;" but for downright careful, scientific work we have searched in vain. No one yet seems even to know whether more oxygen enters the blood when the gas is inspired than when good, pure air is drawn into the lung. Much astonished have we been in some recent experiments to find that the gas does not register itself in any distinguishable way upon blood-pressure or pulse. At least half-inclined are we to put the results reached by the inhalation of oxygen along with those of hypnotism and metallic therapeutics, and the long list of other procedures, which, upon the mind, influence the nutrition.

## Correspondence.

### BERLIN.

(From our Special Correspondent.)

The Great Plague—Barmenite, the New Conservative Agent—The Failure of Somnal—Elephantiasis Palpebrarum—Official Warning against Carbon-Sodium Stoves—Medical Examinations—Personal Items.

Never since time immemorial has the aspect of the European situation been so profoundly peaceful as to-day. The knotted Bulgarian and the vexed Eastern questions no longer exist, the triple alliance has ceased to disturb the sleep of the Czar, and Bismarck no longer leads the political concert of the Old World. I need not say more, for you know that an unknown but omnipresent microbe has taken charge of Europe, has stricken down every other person, and, for the present at least, reigns supremely.

As a conscientious correspondent, I thought it proper to observe the nature and symptoms of the influenza epidemic on my own person before venturing to report to you about it. I have been sick but a few days, but I feel and look as if I had been the subject of malarial fever for months, or had just recovered from a protracted sea-sickness. I must confess that there is, aside from the periodical element, no great variance between the symptoms of influenza and those of malaria. I would not hesitate to say that influenza is—as far as subjective sensation is concerned—a diabolical decoction of malaria and muscular rheumatism. Leyden and Hirsch, to be sure, pronounce influenza a catarrhal inflammation of the respiratory passages, marked by nervous symptoms. It is particularly in this lastly-named feature that influenza differs from the ordinary bronchial catarrh. The suddenness of the attack and retreat, the chill, the high fever, and the intense pains in the muscular regions, all point to a marked implication of the nervous system. The etiological relations of the affection are absolutely mysterious. Its microbic character, however, appears quite evident, and also its

march from east to west. That a certain something travelling with the air causes the disease has even been demonstrated by the fact that a ship's crew was seized with influenza exactly at that time when a wind known to have been impregnated with influenza germs passed that part of the ocean where the ship just happened to be. Nothnagel believes it probable that Eastern Russia is the home of influenza, while the Berliners declare that the Czar at his recent visit to Berlin has imported the ubiquitous malady.

The first epidemic of influenza in Europe appeared in the thirteenth century, and in 1789 the whole northern hemisphere of the globe was attacked. In 1831 influenza was the forerunner of cholera, and it is quite an accepted dogma with the ignorant people here that the Asiatic plague will follow the footsteps of influenza in the following spring. "Nihil est sic absurdum, ne sit dictum a philosophe," we will say "a professore medico." This time it is a titled dignitary, and even private physician to the Czar, Dr. Zdekauer, at a meeting of the St. Petersburg Sanitary Society, December 10, said, "Influenza will in the spring be superseded by cholera, for the influenza microbe can be transformed into Koch's comma-bacilli."

Fortunately, the epidemic does not endanger life, and with the beginning of frost is likely to disappear gradually.

The introduction of barmenite, a new conservative agent for meat and other organic substances, can be hailed with great satisfaction. The tests thus far made with the new agent have been surprisingly successful. Barmenite was discovered by Dr. Rüger, of Barmen. The principal constituent of barmenite is chloroborate of sodium. The following experiments* will give you an insight into the efficacy and usefulness of barmenite: 1. A liver and tongue treated with barmenite were kept fresh and unchanged two weeks in June during a hot temperature. 2. Five grammes of barmenite added to five hundred grammes of minced meat, preserved the latter in so intact a state that eight days later it could not be distinguished from fresh minced meat. 3. A pig's liver was kept fresh fourteen days in a ten per cent. solution, and heart, lungs, and kidneys four weeks in a five per cent. solution of barmenite. 4. Freshly twirled beef's and pig's blood was kept fresh eight days, if three grammes of barmenite were added to five hundred grammes of blood. 5. Shell-fish could be preserved intact for five weeks, if treated with a ten per cent. solution of the agent.

The German government is taking particular interest in barmenite. Recently, for the sake of a trial, a whole battalion of the Sixty-fifth Regiment in Cologne was fed with meat which eight days previously had been treated with barmenite. The meat was found to be excellent both in taste and appearance. The new conservative agent is also exceedingly appropriate for the exportation of fat, placed into large barrels.

Professor Liebreich† and Dr. Robinson (assistant of Professor Fürbringer) deserve the hearty thanks of the profession for having in an unmistakable way condemned somnal, the latest hypnotic, the invention of Dr. Radlauer, proprietor of the Pronenapotheke in Berlin.

Liebreich† proves (*vide Therapeutische Monatshefte*, December, 1889) that the chemical statements given by the inventor in regard to somnal are incorrect. "You do not have a clear idea," Liebreich says, "as to what somnal consists of." As far as the reputed hypnotic action of somnal is concerned, both Liebreich and Robinson agree that it is a fallacy. Robinson's *résumé* of the action of somnal is that it exerts an hypnotic influence in about thirty per cent. of cases, and that it has a very undesirable and occasionally even dangerous secondary action on the heart. The latter reason has been sufficient for Fürbringer to abandon all further use of the drug. It is to be sincerely hoped that the profession will refuse to even make a trial with somnal, and that the medical press will not be burdened unnecessarily with pertinent publications.

In the last meeting of the Berliner Medicinische Gesellschaft, Dr. Liebreich made some interesting remarks on a case of elephantiasis of the eyelids. The patient in question presented, instead of eyelids, two immense swellings, closely limited to the normal locality of the eyelids. The consistency of the tumors was on palpation found to be soft and œdematous, leaving on pressure distinct digital impressions behind. The tension of the skin was moderate, and the bones did not appear to be swollen. The etiological aspects of the case were regarded as mysterious. Leucæmia, preceding erysipelas, and various other presumed causes, were, on closer examination,

* Conducted under official superintendence.

† Through the instrumentality of his two assistants,—Drs. Rabow and Langaard.

found to have nothing to do with the affection. Histological inspection having shown that the tumors consisted chiefly of fibrillary connective tissue, the conclusion was ultimately arrived at that the cause of this elephantiasis was some chronic inflammatory process. It was stated in this connection that in tropical countries elephantiasis had often been known to result from chronic inflammation.

That many new inventions, in spite of certain apparent advantages, are often not void of hygienic defects and even peril, is again illustrated by the so-called carbon-sodium stoves, which have recently come into the market, and are enjoying quite a popularity here, because they are advertised to give out heat without smoke and smell. A few cases of intoxication with carbon binoxide, with lethal results, however, having resulted from the use of these stoves, the Berlin president of police warns officially against their use, particularly for dwelling-houses and sleeping apartments.

A glance over the result of the examinations of medical and pharmaceutical candidates is sufficient to show that a medical or a pharmaceutical examination is quite a different thing in Germany than in America. By comparing results, the plain fact will come to light that, even in the best of American medical schools, the examinations are often only a farce. I regret the necessity of using so harsh a term, but it is the truth, and I say, let the truth come out, so that we can profit from it and mend things. As long as I can talk and write I will not cease to fight for higher medical education of the American medical man, until he is the peer of his European brother, and can present himself in Europe without being regarded with a piteous and—it is a fact—contemptible eye. Only one more word about the cause of the inferiority of American medical education. The bane of the profession is the excessive number of colleges, some of which do in reality not deserve even the name of a college. As long as a central medical United States Board is absent, and a single city is allowed to have two to five medical schools, improvement will be a very slow one. Is it known to you that the German universities do not recognize at all an American M.D.? There are one hundred and ninety American physicians matriculated at the University of Berlin, but the official calendar registers none as "Dr."; English and nearly all other foreign physicians are fully recognized. American medical teachers and teaching are excellent, but of the students about one-third only have the proper preliminary training for the medical calling. I shall not speak of the length of courses required for graduation, but I understand there are still such curiosities in the United States as medical colleges with a compulsory two years' course. "They are all honorable men." Now some of the details of the German examinations. The general percentage of failures for medical men in the empire during the last examination was twenty-six,—viz., one hundred and seventy-nine failures out of six hundred and eighty-three. For pharmaceutists this percentage is somewhat lower. The most dangerous place for medical and pharmaceutical candidates is Berlin, the percentage of failures being sixty and fifty. Königsberg and Marburg, respectively, showed the least percentage of failures.

The medical faculty of Berlin to-day is but little representable. Leyden went to St. Petersburg to attend the Czar, Wertzbal is hopelessly ill, Bergmann has the pneumonia, and Lewin is also confined to bed.

---

## BERLIN.

(From an Occasional Correspondent.)

### The Influenza Epidemic in Berlin.

The most prominent question among doctors during the last few weeks has been the discussion as to the nature of the influenza. The last meeting of the Society for Internal Medicine was devoted to the study of this affection, the discussion being opened by Dr. Renvers, assistant of Professor Leyden. After some general remarks, the speaker referred to the remarkable manner in which this affection had spread from east to west over the whole of Europe. Since 1837 it had not broken out with such violence. In St. Petersburg, where the disease has its origin, half of the inhabitants were ill. In general the speaker stated that he believed that he had observed two types of influenza,—the one is pure nervous, the other is catarrhal. In both cases the illness begins either suddenly with a severe chilliness, or for a few days the patient feels that he is about to be taken sick, but does not complain of any definite symptoms. In the purely nervous form the patient complains of dreadful headaches, of pain in the whole body, but without cough. In the catarrhal form all the organs of respiration, from the throat to the finest bronchi, are affected. This is the most frequent form. The throat, the hard and soft palate, often show intense serous transudation; while the tonsils are the seat of a follicular

inflammation. Soon the trachea and the finer bronchi are affected; an obstinate cough and a burning sensation in the breast greatly oppress the patient. Sometimes the sputum is bloody, resembling pneumonic sputum. In other cases the catarrh affects the digestive organs. The tongue is thickly coated, an intense fœtor is remarked; in most cases diarrhœa appears. The temperature is generally very high, sometimes rising to 105.8°. The pulse shows, apart from the fever type, no special appearance.

The cases, where the illness did not begin acutely, but were preceded by a prodromal stage, might readily be mistaken for typhoid fever; only further observations could prevent the mistake.

To the constant symptoms of influenza belong violent backache and pain in the whole body.

As complications, pneumonia, whether croupous or catarrhal, are the most important. While at the commencement of the epidemic pneumonia was seldom noted, it now appears very frequently, mostly in old people and young children. In one single case, which is remarkable, nephritis was observed as a complication. This occurred in a patient in the sixth week of scarlatina, who had already had a scarlatinal nephritis. For some days the urine had been completely free from albumen. Suddenly the nurse of this patient fell ill of influenza. Soon after this the scarlatina patient was affected with influenza, and an acute nephritis with bloody urine and albumen appeared. But it is questionable that the influenza was the cause of the nephritis. The prognosis is a very good one. Although about one hundred and fifty thousand cases of influenza have been observed, only very few cases of death were reported, and then through the complication with pneumonia. The illness did not last, in the most cases, longer than two or three days. Sometimes it was over in one day, but the patients suffer still some days of intense weakness and want of appetite. In most cases the fever falls suddenly, and a profuse perspiration announces the approaching health. In only a few cases the fever recedes gradually.

In regard to the treatment, the antipyretics —namely, antipyrin, antifebrin, quinine—have given the best results. Small doses of antipyrin especially brought the patients great relief. The consumption of antipyrin and antifebrin in Berlin was, from the 10th to the 20th of November, greater than ever before, and, remarkable to say, according to the communication, the apothecaries were the only class who have not been attacked by this illness. In general the illness attacks every class, each gender, and every age, only it has been seldom observed in children under 3 years. The most frequently attacked are those people of the age of 25 to 35 years.

A lively discussion by the members of the Society followed the reading of this paper, above all as to the manner of the infection. That it is an infection is beyond doubt. While some of the members believed the illness to be contagious, others disputed this claim. Those who were of the first opinion brought as a proof for the contagion the fact that so frequently all the members of the same family were affected. Some even have made the observation that children brought the infection from school, and their family caught the illness from them. For the same opinion, the doctor of a convent near Berlin, in Charlottenburg, brought a proof, but in a negative sense. In this convent are several hundred pupils, among which girls of a weak constitution are to be found. They are almost entirely shut out from the outer world, and, on the whole, only two or three people come to the convent, who bring food or other necessaries for the household. In spite of the fact that scarcely a single house in Berlin escaped the illness, and the epidemic has constantly been on the increase, no case of influenza has been observed among the many hundred inhabitants of the convent. These remarks caused the doctor to doubt the infection by a miasma vivum, and made him believe that the influenza must be contagious. As namely the convent is entirely shut out from the outer world, a contagion could not follow.

Those who believed that the infection was miasma vivum thought they could support their hypothesis by claiming that many hospital patients did not catch the influenza, although many recent cases of influenza were brought into the same room. At any rate, a decisive opinion as to the manner of the infection is not yet possible.

It seems as if a poisonous seed, which is spread in the air, has been strown over the whole of Europe. It is certainly a microorganism similar to that of scarlatina, measles, diphtheria, the infection of which surely exists, though not yet capable of being recognized.

Although very often the sputum from the wind-pipe, mouth, and nose has been examined in regard to bacteria, a decisive microorganism has not been found.

So much experience seems to have taught

us, that those people who have not left their room in the last weeks have not been attacked by the influenza.

---

## LONDON.

(From our Special Correspondent.)

The question of the contagiousness of consumption was the subject of two lectures recently delivered by Dr. Herne at the Victoria Park Chest Hospital. It is a question of deep interest not only from the pathological point of view, but from that of treatment of hygiene. Even before the days of the tubercle-bacillus there was some clinical evidence to show that wives who married consumptive husbands might develop phthisis, even though there was no family predisposition. There was also some pathological evidence to show also that the disease (tubercle) could be communicated to animals by the subcutaneous inoculation of tubercular material. Wilson Fox's experiments for a long time misled the profession in England, for by his work it seemed that the inoculation of various morbid products might produce tubercle in guinea-pigs and rabbits, not only the product from tubercular lesions but those from non-tubercular abscesses, etc.; and, finally, that the introduction of a seton was sufficient to cause tubercle in these animals. Before his lamented death, Wilson Fox publicly negatived the results of his previous experiments at a meeting of one of the learned societies: this was a rare instance of candor, one to be emulated, showing that Wilson Fox was only anxious for the truth. Koch's remarkable discovery was prepared for by Cohnheim's interesting experiments on the inoculation of tubercle in rabbits; and the discovery of the tubercle-bacillus clinched the conclusion by showing the *materis morbi*.

There are many in England who do not yet appreciate Koch's discovery: the medical profession is a conservative one, and does not readily discard old ideas, or willingly receive new ones. But the believers in Koch's results are getting a wider and wider circle in our country, and include, it would not be too much to say, the most eminent scientific members of the profession. And it would, indeed, be impossible to imagine how any impartial student of Koch's work, confirmed, as it has been, by many independent observers, can fail to accept his result that the primary cause of tubercular disease is due to a specific micro-organism,—the bacillus tuberculosis. And if this is accepted, it will readily be appreciated what new light is thrown on the whole question. It would be out of place here to speak of the pathological results obtained by Koch or his successors. But the newer developments of the subject are becoming of great importance in practical medicine. These newer developments are the question of the contagiousness of phthisis, dealt with by Dr. Herne in his interesting lectures, and the question of the antibacillus treatment of the disease.

The practical aspect of the contagiousness of phthisis is evident from several considerations. We have the fundamental fact that the tubercle-bacilli is the initiative of the disease,—phthisis; we have also the fact that the expectoration of patients with phthisis contains bacilli, often in great quantities, the number present bearing some relation to the rapidity with which the caseated masses in the lungs break down into cavities. The expectoration of the bacilli is thus the means of infection, supposing that it does occur; and considering the greater number of cases of this dreadful disease, which exist especially in temperate climates, it is evident what a large number of bacilli may be present on handkerchiefs and other articles of apparel. The bacilli are also in the streets and in the rooms inhabited by phthisical patients, if the sputum is not carefully collected. That this is not simply theory is shown by the fact that tubercle-bacilli have been found on the walls and the floor of rooms inhabited by phthisical patients, who had not been particularly careful as to the disposal of their expectoration. This fact was quoted in the lectures referred to, and was supplemented by the statement that one or more cases of phthisis were traced to this mode of infection. This statement, however, is very difficult of proof. The history of cases of phthisis demonstrates to us that the disease arises very commonly in persons who do not mix with phthisical patients, who have no family history of the disease, and in whom there is no assignable cause for the lesion. But although difficult of proof, such a statement ought to put us on our guard against this *possible* mode of infection, especially when the other better-known cases of the contagiousness of tubercle are taken into consideration. Cases have now been published in Russia, Germany, and in England where a local tuberculosis followed the rite of circumcision. This rite, as practised by the Jews, consists in circumcising the prepuce, and stopping the subsequent hemorrhage by means of suction with the mouth. In the

Russian cases, the operator (not a doctor) was the subject of phthisis, and many of the children operated upon had a local irregular induration, which was followed in some cases by tubercle in the lungs, in the meninges, and in the peritoneum. Such cases, indeed, seem sufficiently definite of contagion of tubercle. There are other cases which are also important from this point of view. Thus, a local tubercular lesion has been ascribed to the use during operation of a knife not properly cleansed. In such lesions tubercle-bacilli have been found after excision: there is no doubt, therefore, of their nature. There is also the so-called post-mortem wart,—verruca necrogenica,—which has been proved in many instances to contain the tubercle-bacillus. It is a local growth, not uncommonly met with in the hands of those who habitually perform post-mortem examinations and of post-mortem-room porters. Probably all post-mortem warts are not tubercular in nature; in some, indeed, the tubercle-bacillus has not been found. When we speak of the contagiousness of consumption, the idea is vigorously combated, as if the question were of the rapid infection which occurs in cases of acute infective disorders. The growth of the tubercle-bacillus is a slow one, and the lesions produced only slowly depurate. The rarity of consumption in the residents (house-physicians and nurses) of consumption hospitals shows, indeed, that the disease is not readily propagated from one person to another. But in hospitals, it must be remembered, the sputum of the patients is carefully disposed of, and there is no evidence to show that the breath of the patients causes infection. In fact, the experiments undertaken by Dr. Herne, with the view of settling this point, were decidedly negative as to the expired air of phthisical patients containing any tubercle-bacilli. From the facts that are known, it seems obligatory to turn one's attention to the disinfection of the sputum, and there is no doubt that this ought to be performed, as, in fact, it is already done in some parts of Germany. Such disinfection might readily be carried out by means of heat, but there is little doubt that the use of corrosive sublimate, the most efficient germicide known, is best for the purpose.

One other aspect of the question of the contagiousness of tubercle has lately come into prominence in this country. This is the question of the value of the flesh of tuberculous cattle as food. In several instances lately in the north of England or in Scotland, the authorities have condemned the meat of such cattle as unfit for human food: these decisions have been vigorously contested. In favor of this condemnation, the regulations in vogue among the Jewish community are often quoted. The Jews are, as is well known, a race remarkably free from phthisis, and this immunity has been ascribed to the great care with which their meat is inspected; so that not only is obviously diseased meat rejected, but the apparently healthy meat of diseased animals is also considered unfit for human food. In this way the flesh of tuberculous cattle is not used by the community. A tuberculous cow may yield meat perfectly normal in appearance and consistence, or the meat may itself be affected with tubercle; it may be studded with "perles," as the tubercles are called. There is no doubt whatever that meat in which there is a deposit of tubercle ought to be rejected as unfit for human food, as not only is there *à priori* a danger of infection of the heart, but the quality of the meat as a food is deteriorated. It is quite true that the tubercle-bacillus will not withstand a temperature of 42° C., and that the temperature of the internal parts of the meat during cooking is higher than this as a rule; but the temperature of underdone meat is very low, and meat is often eaten in this condition, so that it is best to reject the meat. It is a question, however, whether the apparently healthy flesh of tubercular cattle ought to be allowed for human food. Such meat has been shown by examination to contain no microscopic deposits of tubercle and no tubercle-bacilli, and the expressed juice has been injected into rodents without tubercle appearing in the animals. In fact, this meat from tuberculous cows is indistinguishable (so it is stated) from the ordinary meat from healthy cows. If this is so, it must be considered as theoretically fit for human food. But who is to decide this? We are met with the practical difficulty of deciding the question; for it is not sufficient to make a naked-eye examination of the meat; microscopic sections must be cut, and tubercle-bacilli searched for both in the sections and in the expressed juice of the meat. The arrangements for the inspection of meat, at any rate in this country, are totally inadequate to meet the requirements of such minute investigations. The inspectors of slaughter-houses are not at present competent to cut sections and look for tubercle-bacilli, and it does not seem a definite part of the duties of the medical officer of health to do this. Until such arrange-

ments for the minute investigation of meat are made, it is certainly best to reject the meat of all tuberculous animals as unfit for human food, when such meat is obviously tubercular or not. This is the line on which the authorities have lately gone, to the dismay of the butcher. But the health of the community is too serious a subject to sacrifice for the pocket of individuals, and every impartial person must consider the authorities justified in their action.

In my next letter I will consider the antibacillic treatment of tubercular disease.

---

## PARIS.

(From our Special Correspondent.)

Not the Dengue, only Grippe or Influenza—The Estimation of Glucose in Urine—Petroleum a Sure Cure for Itch—End of the Motte-aux-Bois Vaccine Controversy—Physicians as Experts in Medico-Legal Cases.

One subject now overshadowing all others, even politics, is the prevailing epidemic which has brought down one-half of the Parisian population. At first, owing to its coincidence with the breaking out of dengue fever in Russia, all took it for granted we were in for a taste of dengue too, an experience hitherto unknown in this latitude. But physicians, after carefully observing their patients and comparing notes, have come to the conclusion that the present epidemic is not one of dengue, or anything like it. We simply have a sudden breaking out of a well-known affection, called here *grippe*, and in America *influenza*, a time-honored domestic complaint, so familiar as to be considered endemic. Every winter witnesses various slight outbreaks here and there. This season, for some unknown cause, it has spread everywhere with astounding speed, and spared neither age nor sex. In consequence, all Paris, in-doors or out, has the appearance of a grand coughing and sneezing concert, in which every one plays his or her little solo, without regard for time or music. Some years since your correspondent was in Florida, just after an epidemic of dengue fever, the real one without doubt. All the patients had recovered, but the symptom most striking to them all was the pain they had felt in the joints and bones. Some would almost shudder when relating their experience. Indeed, so characteristic is this feature considered, that "breakbone fever" is the popular name of the complaint. This symptom is entirely absent from our present Parisian epidemic, and so are the eruptions, desquamations, etc., mentioned by authors conversant with dengue. The medical profession unanimously agree with the Academy of Medicine in declaring the sickness to be, not dengue fever, but a rather severe form of grippe, or influenza, and in good justice it is bad enough as it is.

The estimation of glucose in urine, the crucial test of some medicaments' therapeutic value, is a delicate process, which is not always interpreted alike by all experimenters. Dr. Blarez, professor of chemistry at the Bordeaux Faculty of Medicine and Pharmacy, has found an ingenious way to test the accuracy of the various methods. "The estimation," he says, "may be made with Fehling's solution, in which case the liquor should be titrated, so that ten cubic centimetres of it, diluted with an equal volume of distilled water, will be just decolorized with .050 gramme of inverted sugar, dissolved in 100 or 200 parts of water. The old method consists in considering inverted sugar and diabetic glucose alike in reducing power. On the contrary, Sohxlet, a more recent experimenter, avers that the ten cubic centimetres of Fehling's correspond only to .0475 gramme of anhydrous glucose. The same discrepancy occurs in regard to the interpretation of optimetrical observations." The other day an opportunity was found of deciding the question. A young man, aged 17, who applied to him for treatment, proved to be a real live sugar-factory. He daily produced two gallons of urine, containing for each litre 93.80 grammes of diabetic sugar, or some twenty-four troy ounces every twenty-four hours. With such a patient it was easy, before treatment could begin to take effect, to prepare sufficient quantities of pure diabetic sugar of undoubted genuineness. Experiments made with it have demonstrated that, so far as valuation with Fehling's solution is concerned, the old figures formerly accepted are correct and the pretended correction a mistake. Preliminary trials with the spectroscope tend in the same direction, but more time is needed to bring the matter to a sufficient degree of accuracy.

Dr. Bourgeois, of Noailles, reports that for several years past he has obtained excellent results from the application of petroleum in itch, and now invariably cures the disease within three days, at most, with the following procedure: On the first day, before bedtime, the patient is to gently anoint his whole body, except the head, with kerosene, rubbing it in especially in parts most affected. After which he is to put on his old shirt again and retire.

Next morning the oily substance is to be washed off with white Marseilles soap and lukewarm water, clean underwear replacing that worn at night. On repeating the process three nights in succession, complete cure will invariably follow. Now and then the patient will, owing to itching, lose his first night's sleep, but the trouble never occurs a second time. Dr. Bourgeois remarks that the treatment is not only most simple, but also inexpensive, an important consideration, as such patients generally belong to the poorer classes. A quart of kerosene and a piece of soap is all that is needed. He also considers the application harmless, as he has used it with 8-year-old children; with younger ones, however, he would hesitate, and probably abstain.

The Motte-aux-Bois vaccine controversy was officially closed before the Academy of Medicine by a report read, on November 26, by Dr. Hervieux, who had been assisted in his final examinations by an English practitioner, "Dr. Thorne Thorne, director-adjunct of the local government board." After closely examining every one of the patients, they found them all completely and absolutely cured. All the ulcerations had healed up, all indurations disappeared, and not one symptom could be detected of secondary syphilis. In consequence the late outbreak, which so deeply excited the whole rural population, is now officially declared not to have been of a syphilitic nature. At the same time the Academy will not undertake to decide what was the nature of the affection.

For years the French medical profession has kept protesting against the shabby treatment forced upon them by lawyers. Legal gentlemen who are not in the habit of laboring gratis for Dame Themis, their patroness, take advantage of an obscure law-text, dating from 1811, to compel physicians to act as experts in medico-legal cases, for a remuneration absurdly inadequate. At last, patience ceasing to be a virtue, the physicians of Rodez, a small southern town, decided to refuse their services, and test the law and lawyers. Near the end of August last the body of a girl, supposed to have been murdered, having been found in the woods, five physicians of Rodez were required by a justice to view the body and report. They unanimously refused to obey the order, under the plea that the law applies only to *flagrante delicto* cases, and they could not be compelled to act as experts in a case like the one in point, in which death had evidently taken place several days before. Next the recusant physicians were summoned, on October 4, before the Rodez justice of the peace, who sentenced them to a nominal fine of six francs (one dollar and twenty cents) each. But, on appeal (near the end of November), the Rodez correctional tribunal reversed the judgment and remitted the fines, holding that the defendants had not violated the law. It is unnecessary to add that the Rodez case made considerable noise all over the country. The medical profession took advantage of the excitement to air their grievances and try to obtain redress. They remarked, with good reason, that about courts of law every one lending his aid to the courts of justice—judges, lawyers, witnesses, jurymen, and even expert chemists—will receive suitable compensation. The physician alone is expected to do expert work for a boy's salary. For instance, for a *post-mortem* the law allows him from five to nine francs (one dollar to one dollar and forty cents), less than a knacker gets for opening a horse. Finally, so much noise was raised on the subject, that the question forced itself upon Parliament. On December 9 it was the object of an interpellation in the Senate, and there is every hope that the matter will be equitably adjusted. And the singular part of the Rodez affair is that the real point at issue—the question of remuneration—never came before the courts. All the fuss and trouble has been about a side complication, which no one cared for in the least. But no matter, the medical profession have gained their point, and compelled the legislature to pay some attention to their just grievances.

PARIS, December 20, 1889.

---

### *CONTAGION OF SCARLET FEVER.*

To the Editor of the THERAPEUTIC GAZETTE:

DEAR SIR:—The article by Dr. H. C. Wood on the "Duration of the Contagion of Scarlet Fever" recalls a similar one to my mind, the recital of which may interest you. Three years ago one child of Mr. C. Nismer, a large restaurant-keeper here, 608–10 K, N. W., was taken with scarlet fever and subsequent diphtheritic invasion. The three remaining children were at once removed to an upper story, completely isolated for six weeks. During the fifth week the whole lower floor was cleaned; bedding boiled, destroyed; walls, furniture, etc., scraped, repapered, scrubbed, aired, disinfected; everybody bathed, etc.; in short, the most complete precautions taken

to remove any possible contagion which modern ingenuity could devise. The second night after reunion the next youngest child was taken with severe scarlet fever; within the week the two others also contracted it in a most violent form, the subsequent diphtheria being very persistent. Fortunately, all got well.

A number of cases, being removed from other houses at once and kept away for four weeks, contracted it within a week after reunion. The case recited above, however, is the most striking in my experience of the futility of isolation in any domicile and under conditions usually met with.

Respectfully,

R. G. MAUSS, M.D.

[We do not think that the case reported by Dr. Mauss shows the futility of isolation, as he intimates, but, especially in the light of the cases reported by Dr. Wood, it shows that six weeks' isolation is not sufficient in scarlet fever. In Dr. Wood's case the second child who took the disease was not brought back to the house where the disease had been, but certainly took it from the person of the first patient, and it is probable that in Dr. Mauss's case that the room was thoroughly purified, and that the disease originated through contact with the first case.—ED. THERAPEUTIC GAZETTE.]

---

### *NITRO-GLYCERIN AS A REMEDY FOR SHOCK.*

To the Editor of the THERAPEUTIC GAZETTE:

DEAR SIR:—The article by Dr. F. X. Dercum, in the GAZETTE of October 15, on "Railway Shock and its Treatment," suggested to me the advisability of offering the following for publication:

Mrs. C., on April 7, 1889, had a chill, followed with fever and pains in side. Was called to see her next morning, and found her with croupous pneumonia. The case proved to be very stubborn from the outset, but on the eighth day there was a change for the better, and I expected that recovery by resolution would take place, but about 2 A.M. the following night she was seized with a severe pain in her side, so much so that I was called up to see her. I found her suffering a great deal from pain and prostration. My efforts to relieve her were fruitless for some time. I left her at 8 A.M. to make some other calls, and on my return at 10 A.M. found the family standing around the bed very much excited. I hastened to examine Mrs. C., and was convinced from my examination that she was dying. Her pulse was almost imperceptible at wrist, the heart-beat very weak and accelerated, the skin cyanosed and moist, with cold, clammy perspiration. I could not note her respiration accurately from the fact she was trying to talk to those around her all the time. I was puzzled to know what to do; but calling to mind some recent utterances on nitro-glycerin in collapse, I at once decided to try the remedy, and gave her 5 drops of a one per cent. solution hypodermically. In five minutes her heart-beat was much stronger, and I could easily feel her subdued pulse. The surface gradually regained its warmth and normal color. Dr. Dismaker arrived at this time, and he advised the several hypodermics which I gave her. This was about 11 A.M. By 2 P.M. her symptoms were much better. After a careful examination we decided she was suffering from the second attack of pneumonia, which proved to be correct by the subsequent history.

I hope that I will be pardoned for reporting so much in detail a case that appears at first sight to be foreign to the subject, but the symptoms of collapse in the above case resemble so much those of railway shock described by Dr. Dercum that it occurred to me that nitro-glycerin would prove valuable in the treatment of the latter. Hence I write this note, hoping that it may elicit investigation from those who have an opportunity of treating railway shock, and that they will report the result of their investigation through the GAZETTE.

Yours truly,

B. W. ALLEN, M.D.

FLANIGAN, ALA., October 26, 1889.

---

### *THE DOSE OF GELSEMIUM SEMPERVIRENS.*

To the Editor of the THERAPEUTIC GAZETTE:

DEAR SIR:—I see on page 429 of THERAPEUTIC GAZETTE for June, 1889, that Dr. Wharton Sinkler concludes that from 15 to 25 minims of fluid extract of gelsemium sempervriens is entirely too large a dose, and you agree with him. I have been using gelsemium for the last seventeen years, and have given as much as 125 minims of fluid extract without the least bad effect. I give it to infants and in old age, and for things too numerous to mention at this time. The reason that most physicians do not get any

better results from gelsemium is that it is not pushed far enough.

We frequently give 40 minims for sick headache, combined with 60 grains bromide of potassium, inside of hour.

Your most obedient servant,

DR. T. L. LALLERSTEDT.

PANOLA, GA.

[We print this letter, which was received some time since from Dr. Lallerstedt, but was for a time mislaid. The subject is one of practical importance, and the only conclusion that we can draw is that the fluid extract which the doctor has used is a remarkably inert preparation. The recorded cases in which serious or fatal symptoms have been caused by doses not larger than those used by Dr. Lallerstedt seem to show that his doses are unsafe with an active preparation; thus, 2 minims of the fluid extract, given three times a day, are reported to have produced very distinct symptoms. In a case put on record by Dr. Freeman, a quantity of the tincture, equivalent to about 12 minims of the fluid extract, proved fatal to a boy 3 years old; in another recorded case 35 drops of the tincture caused death in a day and a half; again sixty minims of the fluid extract, given in doses of 15 minims, at short intervals, was followed by a fatal result in less than four hours, and a teaspoonful of the extract of gelsemium given to each of two children caused death in three hours. Dr. Seymour records one case in which a teaspoonful of the fluid extract proved fatal to a young lady; in one case 10 minims of the fluid extract, repeated after half an hour, caused violent symptoms with collapse soon ending in death.—ED. THERAP. GAZ.]

---

### *SULPHONAL AS A HYPNOTIC IN TYPHOID FEVER.*

To the Editor of the THERAPEUTIC GAZETTE:

DEAR SIR:—I wish to report a case of typhoid fever in which one of our comparatively new remedies did most noble, or, I should say, most valuable work. On August 28, 1889, I was called to see Mrs. F., aged about 22, who was in her second week of the severest case of typhoid fever it has ever been my lot to treat in a practice of nearly nineteen years. She could not sleep; lay in that state styled coma-vigil until she became wild and maniacal. She began to talk wildly and wanderingly at 10 P.M., and continued to talk incessantly until the next night about the same hour, when she came under the influence of a 20-grain dose of sulphonal, given some hour or two previously. She slept soundly until about two or three o'clock next morning, when she awoke, when another dose of sulphonal was given. She fell asleep from this, and slept soundly till about seven o'clock, or about four or five hours more. She awoke for a few minutes, and appeared perfectly clear in her mind. She soon fell again into a slumber, and continued to sleep the greater part of the day. This was the last of the coma-vigil, and the nervous system remained in a very good state during the remainder of her illness, without giving any more hypnotics. She slept very well at nights after this, although she was confined to the bed with the fever for three or four weeks longer. I tried chloral, bromides, monobromated camphor, camphor-water, valerian, and other hypnotics, but none of them would do any good towards giving the nervous system rest, and I can say in this case the sulphonal was *the* hypnotic *par excellence*. Of course this one case is very little to decide the value of the remedy, but it is a slight pointer to act upon, and, perchance, others may try it in their cases of typhoid fever, and report as to its value in the THERAPEUTIC GAZETTE.

J. POWEL BAIRD.

GREENVILLE, TEXAS.

---

### *REMARKABLE TOLERANCE FOR MORPHINE.*

To the Editor of the THERAPEUTIC GAZETTE:

DEAR SIR:—The following case of a male, colored, æt. 32, porter, is interesting, as illustrating the large amounts of morphine which may sometimes be given with impunity.

No syphilitic history. Case came under observation September, 1889, with remittent fever of three weeks' duration. Fifteen days after defervescence of fever, and while patient was still convalescing, the attention of the reporter was called to a swelling situated in perineum, midway between scrotum and anus. It was about size of half an egg, soft and fluctuating, quite painful, and throbbed subjectively. Temperature, 102°; pulse 100.

*Diagnosis.*—Perineal abscess; had a bistoury been at hand this would have been immediately incised, and probably no further trouble would have been experienced.

Next morning it was found that during the night the abscess had broken into the rectum. The perineum, from scrotum to anus, and for three or four inches on each side of perineal raphe, was intensely swollen, and studded with eight or ten fistulous openings, through which escaped gas and fæcal matter.

On the second day after this condition was observed, all the parts involved as above described were found to be thoroughly necrosed, and, beginning to slough, were entirely removed, and sphincter ani divided, in order to facilitate escape of gas and fæcal matter. The removal of the gangrened tissue revealed the muscles accellerator urinæ, transversalis perinei to attachment to tuber-ischii; erector penis; a portion of gluteus, maximus, and the sphincter ani with its attachment to coccyx. The line of demarcation was well defined. The patient's physiognomy presented the distressed, anxious appearance characteristic of gangrene. Temperature, 102½°; pulse, 140 and quite feeble; respiration, 38; abdomen very tympanitic and low, muttering delirium existing.

A euthanastic (if the coinage of a new word is permitted) dose of morphine, 2½ grains, was administered hypodermically at night. Next morning patient was perfectly rational, and called vigorously for food. Milk, egg, and whiskey were given every four hours. Considerable suffering still existing, 2½ grains morph. were given, and same dose repeated night and morning for two days, when this quantity was found to be insufficient, and was gradually increased to 7 grains three times a day until the tenth day after the occurrence of the gangrene, when the patient died of exhaustion. Wound was irrigated twice a day with a one per cent. carbolic solution, and dressed with absorbent cotton and iodoform. Patient had never used any opiates previous to this occurrence. The remarkable features of the case are—

1. The rapidity of formation, and the large number of fistulæ after rupture of the abscess.

2. Rapidity and extent of necrosis of tissue.

N.B.—This probably would not have occurred at all had not the tissues been more or less degenerated, as result of previous fever.

3. The large quantity and rapid increase in dose of morphine administered to produce analgesia and stimulating and tonic effect.

C. HOLZCLAW, M.D.

## Notes and Queries.

### *THE NEW HYPNOTICS — SULPHONAL, AMYLENE HYDRATE, HYDROBROMIDE OF HYOSCINE, HYPNONE, PARALDEHYDE, AND URETHAN.*

At the sixth annual meeting of the New York Medical Association, held in New York in September last, DR. W. H. FLINT, of New York, opened the discussion as to the "Therapeutic Application, Contraindications, Toxicology, and Methods of Administration of the New Hypnotics." Although most of the facts contained in his address have been already laid before the readers of the THERAPEUTIC GAZETTE, we publish a full abstract of his paper, since it is largely based upon his own personal experience with these drugs.

The object of the present discussion was to give a summary of the therapeutical applications, contraindications, toxicology, and modes of administration, and in some cases to give the physiological action of these hypnotics with a view to throw some light upon the relative merits of the individual remedies. The writer desired to accomplish his part of the discussion by presenting a *résumé* of the most important papers on this subject which had come to his notice, adding thereto the results of his own observations. The group of somnifacients to which attention was invited comprised sulphonal, amylene hydrate, paraldehyde, urethan, and hypnone. In respect to sulphonal, he could report thirty-three cases treated, with the following conclusions arrived at: That sulphonal, even in single doses of 20 or 30 grains, was in the main a safe and reliable hypnotic, free from unpleasant concomitant effects, and usually from all undesirable sequelæ. The only objectionable after-effect witnessed by himself was moderate somnolence on the morning following its administration; in none of the cases was there derangement of the appetite or digestion, nor was the circulation or respiration appreciably affected. The cutaneous and renal secretions were neither increased nor diminished, and nausea, vomiting, or constipation did not follow the use of the drug. The average length of the time in which sleep ensued after the administration of sulphonal was about an hour. The average duration of the sleep was a little over six hours, and success attended the use of the drug in about eighty-seven per cent. of all the cases. Since his early experiments with the drug had been published, about a year ago, he had constantly employed it in private and hospital practice, and it had continued to

favorably impress him. Reviewing his own experience and that of others, he concluded that the physiological action of sulphonal had not yet been satisfactorily established, although notable contributions on this subject had been made during the current year. Sulphonal was chiefly valuable in nervous insomnia, in some forms of insanity, notably in acute maniacal conditions, in acute sthenic febrile diseases, the opium habit, in conditions of gastric irritability, at least temporarily in neurasthenia, and in some cases of anæmia. The effects of the remedy had been generally better in his experience where the patients were strong and plethoric, and in these cases the after-effects were most frequently absent. Sulphonal was contraindicated because of its comparative uselessness in insomnia from pain, cardiac dyspnœa, gastrectasis, congested stomach, etc. The causes of this failure in the presence of pain, cough, and dyspnœa seemed to be its slight narcotic action, and in gastrectasis, chronic gastritis, and gastric congestion its slow solubility. It seemed to be contraindicated on account of its possible hurtful effects in great physical prostration, in acute melancholia, and in insanity after abortion, after labor, and perhaps in sclerosis and in angina pectoris. Clinically, toxic symptoms did not generally follow the use of sulphonal in adult cases until 30 grains or more had been given at one dose, or in doses quickly succeeding each other. It must, however, be conceded that small doses did sometimes act unfavorably owing to individual idiosyncrasies. The milder toxic symptoms from sulphonal were fatigue, depression, tinnitus aurium, and nausea. The writer had also seen marked pallor and œdema beneath the eyelids in several cases in patients waking from sleep after taking sulphonal.

The graver symptoms thus far reported were diarrhœa, aphasia and ptosis, a cutaneous eruption like that of rubeola or urticaria, brachycardia, inco-ordination, semicoma, and collapse. Sulphonal should be administered by the mouth in hot beverages or in hot liquid foods an hour or more before its effects were desired. Its use by the rectum was not generally satisfactory. He would urge the necessity of employing only the pure sulphonal, as some bad results had come, no doubt, from the use of a spurious article.

There was no need for alarm at the sensational statements of some authors who had used too large doses, or had used the drug when it was contraindicated. The dose should be carefully adjusted to the requirements and peculiarities of each case, and since the effect of a full dose was often felt on the second or third night after its administration, it was well to decrease the dose on these nights whenever the drug must be given uninterruptedly for days or weeks. He had not seen evidence yet that the sulphonal habit existed, nor had he seen any cachexia or dyscrasia which could be fairly attributed to the drug. Favorable effects had resulted in about eighty per cent. of his cases. Children took it readily and tolerated it very well.

*Amylene Hydrate.*—This hypnotic, the speaker said, he had employed in thirty-eight cases of insomnia from various diseases. In these, success had resulted in sixty-seven per cent. Upon the basis of his own experience and that of the authorities, he had reached the following conclusions: The physiological action of amylene hydrate was similar to that of alcohol. In therapeutical doses it produced sleep by its soporific action on the cerebrum. In toxic doses it paralyzed the cord and medulla, finally abolishing the reflexes, arresting the respiration, and paralyzing the heart. It was applicable, therapeutically, to insomnia from nervousness, from excessive mental exertion, from anæmia, fevers, insanity, cardiac diseases, the opium habit, and from the withdrawal of narcotics that had been constantly employed. It was contraindicated because not efficacious in insomnia from pain, cough, and often in cardiac and uræmic dyspnœa. Its use by the mouth was contraindicated in gastric diseases attended with irritation or nausea, because of its irritating character, but it might be given by the rectum in such cases. It should not be given to fastidious patients on account of its taste and odor, and children did not generally tolerate it for the same reason. The toxic effects from therapeutical doses were generally unimportant, consisting of headache, slight nausea, gastric distress, and thoracic oppression. Serious symptoms sometimes followed, as loss of reflexes, paralysis of the extremities, mydriasis, low temperature, feeble pulse, and superficial respiration. Amylene hydrate was best given by the mouth, in soft capsules, or in mixture, or solution, disguised by peppermint water, raspberry syrup, or extract of licorice. The mixture should be thoroughly shaken before being used in order to avoid an overdose being taken. The dose for adults was 30 to 45 grains by the mouth and 45 to 75 by the rectum. The author had never seen any cases in which an amylene hydrate habit had been engendered or a cachexia due to the remedy developed.

*Paraldehyde* had been used by the author in thirty-five cases of insomnia from a variety of

causes for the purpose of comparing its effect with other hypnotics. The doses had varied from 60 to 90 minims. Successful results were obtained in seventy-two per cent. of the cases. The writer's inferences, drawn from his own studies, were as follows: The remedy in moderate therapeutic doses acted like ethyl alcohol, producing sleep by its hypnotic action on the cerebrum. This sleep was, however, preceded by a brief period of excitement, during which the reflexes were augmented. In larger doses it paralyzed the spinal cord and abolished the reflexes, finally arresting respiration by paralyzing the medulla. It also exerted a paralyzing action on the vaso-motor centres. Like amyl nitrite, it caused central myosis and stimulated intestinal peristalsis. In full doses it slowed and tranquillized the respiration. It did not notably affect the temperature, but sometimes caused a slight diaphoresis; the blood-pressure was slightly reduced by small doses, more markedly so by large ones, and the pulse was somewhat slowed. Paraldehyde did not particularly irritate the stomach. It was not yet decided whether it produced methæmoglobinæmia. The remedy was not indicated in the insomnia of acute and chronic melancholia, epileptic dementia, acute alcoholism, the opium habit, hypochondriasis, hysteria, neurasthenia, chronic gout, exhaustion from overwork, dyspnœa, or the cough of pulmonary diseases. Paraldehyde was contraindicated in cases of cyanosis, with depression of the respiratory centre, as in advanced emphysema and cardiac dilatation, in painful diseases, gastric ulcer, and gastritis, or in pharyngeal and laryngeal ulceration, and was to be used cautiously in anæmia, as it might reduce the oxyhæmoglobin of the blood. The milder toxic effects were headache, nausea and vomiting, vertigo, and slight cerebral congestion. In powerful toxic doses it produced deep sleep with anæsthesia, then abolition of the reflexes, and death from paralysis of the respiratory centre. Paraldehyde might be given a long time in moderate but yet effective doses, with no harmful results. If, however, too large doses were given for a long time, tremor of the hands, œdema, anæmia, delirium, and a condition resembling chronic alcoholism might be developed. In a rabbit poisoned by relatively large doses of this drug, fatty degeneration of the liver was produced. It was best given in soft capsule or disguised with cinnamon-water or compound tincture of cardamom. The average dose for an adult was 1 drachm. It should not be given subcutaneously, on account of the local irritation and pain which it produced, nor could it be given by inhalations, as it acted too slowly and was apt to be irritating. It did not seem to have an accumulative effect, nor was tolerance of the remedy established.

*Urethan* the author had tried in forty-two cases of insomnia, and found it to be possessed of moderate hypnotic qualities, although insufficiently powerful to successfully rival the remedies already mentioned. In regard to the physiological action of urethan, we had the authority of Schmiedeberg for the statement that large doses of the drug produced loss of mobility with insensibility and unconsciousness. The respirations were increased in depth and frequency, and the heart-beat steadily sustained the blood-pressure at the normal point. Sensation persisted much longer than motion, and the temperature fell. The reflexes were but little affected in the urethane sleep. Diuresis and diaphoresis sometimes occurred. Urethan was best applied therapeutically to insomnia in cardiac diseases without great dyspnœa, and to cases of moderate mental excitement. When sulphonal, amylene hydrate, and paraldehyde were too powerful, it might render good service in insomnia for melancholia. Urethan was contraindicated in insomnia from pain and cough, as it had no anodyne properties, nor was it powerful enough for use in delirium tremens or in mania. It could scarcely be said to have toxic effects until very large doses—as, for instance, 180 grains—were taken. In some cases it had been known to cause nausea, somnolence, and gastric distress. Being soluble in 2 parts of water, and being very free from offensive taste, urethan might be given by the mouth or by the rectum. In aqueous solution it might also be used subcutaneously. The adult dose varied from 15 to 30 grains, and for children from 12 to 18 grains was a fair dose; from 2 to 3 years old, 8 grains; and from 4 to 14 years, 15 to 20 grains. The average dose for subcutaneous use was 4 grains.

*Hypnone.*—The author's experience with this drug was too limited to justify him in formulating conclusions based upon his own observations. From that of others he decided as follows: Therapeutically, it might be used in the absence of a better hypnotic in primary or nervous insomnia, but its effects were very uncertain, and, tolerance being soon established, larger doses were required than at the beginning of the treatment. It was contraindicated in sleeplessness from cough, and was not to be given to patients with feeble stomach. It was best administered in doses of from 3 to 7½

grains, in capsules or almond oil. His own experience with hypnone had, however, been so disappointing that he had practically abandoned its use.

---

### *THE TREATMENT OF CHRONIC METRITIS BY CHLORIDE OF ZINC PENCILS.*

DUMONTPALLIER brought forward one hundred and twenty cases of chronic, muco-purulent, and pyo-hemorrhagic metritis treated by him by means of pencils of chloride of zinc introduced into, and left in, the uterus. In ninety-six out of one hundred cases he claims to have effected a cure without any accident, but in the other four some peri-uterine inflammation was set up, though of a mild character and attributable to the patients having left their beds too soon. The cure may be considered as effected two days after the slough has come away,—*i.e.*, from nine to fifteen days after the operation. No atresia of the cervix usually follows the application, but he suggests the propriety of passing a sound about three weeks later. No complications were noted in respect of the Fallopian tubes or ovaries. When menstruation returned, it was free from pain and of normal duration. He first irrigates the vagina with a $\frac{1}{1000}$ solution of sublimate, and having ascertained the depth of the uterine cavity, he then introduces a pencil of the proper length. A plug of absorbent cotton is placed in the posterior *cul-de-sac*, and retained *in situ* by means of some iodoform gauze. The patient, as a rule, experiences but little pain, but, if severe, it should be overcome by means of a subcutaneous injection of morphine.—*London Medical Recorder*, October 21, 1889.

---

### *A NEW DIAGNOSTIC SIGN OF ABSCESS OF THE ANTRUM.*

The *London Medical Recorder* for October 21, 1889, says: At the Congress of Otology and Laryngology, held at Paris last month, DR. T. HERYNG, of Warsaw, described a new diagnostic sign to which his attention was called by the late Professor Voltolini. The room being darkened, the patient's mouth is lit up by means of a small electric lamp placed above the tongue. Two spots of very bright red, of greater or less extent, according to the size of the antrum, then become visible below the lower eyelids. If the cavity is filled with pus or occupied by a tumor, its front wall is no longer transparent, and the bright red spots are not seen. Dr. Heryng said he had noted the presence of this sign in ten cases which he had recently seen; he also observed that the wall became again transparent when the pus had escaped and the cavity was washed out.

---

### *SOLANUM CAROLINENSE IN EPILEPSY.*

In the *Virginia Medical Monthly*, September, 1889, DR. J. L. NAPIER reports a case of a woman who had suffered from epilepsy most of her life in which the usual remedies had been employed without relief, but who was apparently cured by the administration of a tablespoonful of the tincture of horse-nettle three times daily. Other cases are also referred to, one being a dwarfed child, who had been subject to convulsions all its life, wherein a cure was effected by this remedy; another was the case of a pregnant woman, suffering from convulsions due to albuminuria, in which good results had followed the use of this tincture. The preparation employed was that of a twenty per cent. tincture made from the berries, the dose varying from 10 drops to a drachm. Even larger doses can be given, and, in fact, the writer recommends the administration of the drug to be pushed until physiological effect—drowsiness—is produced.

---

### *A METHOD OF ADMINISTERING CHLORAL HYDRATE IN ECLAMPSIA.*

BLANC has recently alluded to the difficulty of administering the drug by the mouth to patients in whom consciousness is impaired or lost, and to the drawbacks and uncertainty of its administration subcutaneously or *per rectum*. He then pointed out that with a patient lying on the back it is easy to introduce liquids *via* the nostrils by means of a funnel. Even in deep coma the reflexes continue to act, and, on arriving in the pharynx, the constrictors seize it and convey it to the stomach. This simple plan, however, is not exempt from inconvenience, and the author prefers to use an œsophageal tube, which may be introduced either through the mouth or the nose. The great point is to avoid the ingestion of too concentrated solutions of the drug, which is apt to set up vomiting. 1 part in 30 or 40, he considers, is as strong as it is safe to use. On the whole, he thinks that medical men give too little rather than too much, as a rule, and he approves of the dose being pushed to 4 drachms in the twenty-four hours in severe cases. Moreover, chloral is not to be looked upon as exclusively a remedy in acute attacks, and the author recommends its use as a prophylactic in cases of marked albuminuria associated with pregnancy

in doses of from 40 to 70 grains daily.—*London Medical Recorder*, October 21, 1889.

### *THE NON-TUBERCULAR AND NON-CARDIAC HÆMOPTYSES OF ELDERLY PERSONS.*

SIR ANDREW CLARK recently read before the Medical Society of London a paper upon the mode of operation and treatment of hæmoptyses occurring in elderly persons when of non-tubercular and non-cardiac origin. From his inquiries into this subject, he formulates his conclusions as follows (*British Medical Journal*, October 26, 1889):

1. That there occurs in elderly persons free from ordinary diseases of the heart and lungs a form of hæmoptysis arising out of minute structural alterations in the terminal blood-vessels of the lung.

2. That these vascular alterations occur in persons of the arthritic diathesis, resemble the vascular alterations found in osteo-arthritic articulations, and are themselves of an arthritic nature.

3. That although sometimes leading to a fatal issue, this variety of hæmoptysis usually subsides without the supervention of any coarse anatomical lesion of the heart or of the lungs.

4. That when present this variety of hemorrhage is aggravated or maintained by the frequent administration of large doses of strong astringents, by the application of ice-bags to the chest, and by an unrestricted indulgence in liquids to allay the thirst which the astringents create.

5. That the treatment which appears at present to be the most successful in this variety of hæmoptysis consists in diet and quiet, in the restricted use of liquids, and the stilling of cough; in calomel and salines; in the use of alkalies with iodide of potassium; and in frequently renewed counter-irritation.

### *THE ACTION OF SALICYLATE OF SODIUM UPON THE UTERUS.*

DR. M. WACKER has recently published a series of cases in which salicylate of sodium was administered to women either for its anti-rheumatic or antithermic effects, or in metrorrhagia, or for dysmenorrhœa (*Gazette Médicale de Paris*, October 26, 1889). He administered it to two pregnant women, one in the second and the other in the fourth month, in each of whom the daily administration of 45 grains produced abortion; in six lying-in women the administration of salicylate of sodium occasioned metrorrhagia and increased very greatly the flow of blood then existing, and, in fact, in one case led to the production of fatal hemorrhage occurring on the fifth day after delivery. In five other cases salicylate of sodium administered immediately or a little after the menstrual period to calm dysmenorrhœa, produced the return of the menses without relieving the suffering. Nevertheless, in nineteen out of thirty-three cases of dysmenorrhœa, a favorable result was obtained through the administration of the salicylate of sodium. The abortive action of salicylate of sodium appears to be incontestable, and the author attributes it to the great congestion of the uterus which it occasions.

### *BROMOFORM IN WHOOPING-COUGH.*

In a recent number of the GAZETTE we referred to a communication of DR. STEPP as to the treatment of whooping-cough with bromoform. In the *Deutsche Medizinische Wochenschrift*, October 31, 1889, Dr. Stepp publishes a second statement on this subject, in which he says that his list of cases so treated amounts to one hundred, and in no single case was there a failure noted. He states, however, that he has found it advisable to change his mode of administration, and now gives the bromoform pure in 1-drop doses in a teaspoonful of water. On account of its high specific gravity the bromoform sinks to the bottom of the spoon and there forms an isolated drop. The teaspoon should then be carried well back into the mouth and its contents rapidly swallowed; by this means all taste is avoided. His adjustment of the dose is as follows: For children 3 to 4 weeks, 1 drop three or four times daily; in older, nursing children, 3 drops, according to the intensity of the attack. In children of from 2 to 4 years of age, 4 to 5 drops three or four times daily; up to 7 years of age, 6 to 7 drops three or four times daily. Dr. Stepp claims as to this mode of treatment that vomiting as an accompaniment was immediately arrested. The attacks also became shorter and appetite rapidly returned, and perfect cure resulted in from two to three weeks. But small quantities of the bromoform should be ordered at a time, as it is very volatile, and it should be protected from light to prevent decomposition. Red bromoform should be rejected, since it is already decomposed and contains free bromine, and is consequently unsuited for administration.

X